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ABSTRACT

A core component of the School-to-Work Opportunities Act, work-based learning refers to programs that provide students with exposure to or actual experiences in workplaces. Typical work-based learning programs include youth apprenticeship, internship, job shadowing, cooperative education, and mentoring. This document contains reprints of seven articles and documents on work-based learning and a list of national and Florida organizations with relevant resources. It also contains an annotated bibliography of 62 materials related to work-based learning, with availability information for each item. The seven articles are as follows: "Youth Apprenticeship: Lessons from the U.S. Experience" (Thomas Bailey, Donna Merritt); "Opening Career Paths for Youth: What Can Be Done? Who Can Do It?" (Stephen F. Hamilton, Mary Agnes Hamilton); "Youth Apprenticeship 'American Style' and Career Development" (Kenneth B. Hoyt); "School-to-Work Transition" (Susan Imel); "Home-Grown Lessons: There's Much to Learn from Existing School-to-Work Programs" (Edward Pauly); "Student Assessment and Youth Apprenticeship" (Stanley N. Rabinowitz, Srijati M. Ananda); and "Apprenticeship and the Future of the Work Force" (Michael E. Wonacott). (KC)

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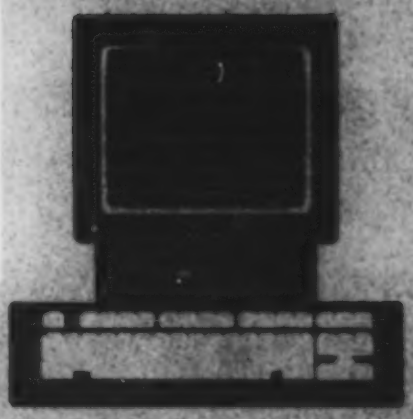
RESOURCE GUIDE

WORK-BASED LEARNING



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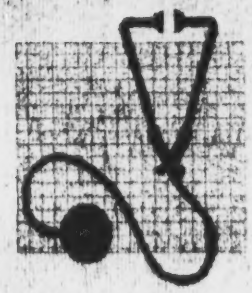

RESOURCE GUIDE

WORK-BASED LEARNING

August 1995

State of Florida
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Tallahassee, Florida
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INTRODUCTION

A core component of the School-to-Work Opportunities Act, work-based learning refers to those programs that provide students with exposure to or actual experiences in workplaces. This kind of learning incorporates knowledge and skills relating directly to work and job requirements, ongoing training and development, and conventional academic content. Some typical work-based learning programs are youth apprenticeship, internship, job shadowing, cooperative education, and mentoring.

This document is an annotated bibliographic listing of materials related to work-based learning. Availability information has been provided for each item listed. Also included are several reprints of articles and documents on work-based learning and a list of organizations with relevant resources.

Material included in this bibliography was selected from a search of the ERIC (Educational Resources Information Center), TTRC (Training Technology Resource Center), and the Florida School-to-Work Clearinghouse databases.

For additional information, contact Florida School-to-Work Clearinghouse, 251 Sliger Building, 2035 E. Dirac Drive, Tallahassee, FL 32310, (800) 428-1194 or (904) 644-0830.

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Youth Apprenticeship: Lessons from the U.S. Experience

CenterFocus Number 1 / July 1993

Thomas Bailey and Donna Merritt

As an effort to meet the needs of young people who are **not** college-bound, youth apprenticeship has attracted a great deal of favorable attention.

Youth apprenticeship, as the term is used here, is not an expansion of the apprenticeship system, currently practiced in the U.S., that serves the labor supply needs of specific occupations. Although there is no fixed definition of youth apprenticeship, a consensus is emerging on four basic components:

> it is designed to be an integral part of the basic education of a broad cross-section of students.
> it integrates academic and vocational instruction. a significant part of an apprentice's education takes place on the job and is coordinated with classroom instruction.
> students emerge from their apprenticeships with recognized and accepted credentials.

Except for some recent pilot projects, no youth apprenticeship programs in this country have all four components, but educators have some experience with each component. We therefore assessed the feasibility of each of these components as they work in U.S. schools today. While it can be misleading to predict the effects of a program by examining its components individually, much can be learned from this analysis: Barriers to the implementation of a component very likely will remain when the components are combined.

Why the Interest?

Interest in apprenticeship as the basis for educational reform arose from the diagnosis of the weaknesses of U.S. education, from the perception that European apprenticeship systems avoid many of these problems, and from a growing body of research in the U.S. on the educational advantages of integrating school instruction with nonschool experiences at work.

The noncollege-bound often drift from one unskilled job to another, learning no skills, and working mainly with other nonskilled young people. This system wastes time, delays maturity, and offers training--when it is offered--that is haphazard and in most cases does not result in any recognized credentials or certification.

German youth apprenticeship systems avoid most of these problems. On-the-job training occurs under the supervision of certified trainers, and the curricula are supervised by quasi-public employer organizations that include representatives of unions and schools. Apprenticeships provide a credential that is recognized throughout the country. Adolescents are quickly moved into the workplace, where they work with mature role models, acquire relevant workplace skills, and are socialized into the nonschool world, learning how to be effective and mature workers and learners.

Problems with the German Analogy

German apprenticeships are embedded in a system that tracks students into explicit career paths, a notion that is anathema to U.S. education reformers. In contrast to the U.S., German unions play a central role in the labor market and the apprenticeship system. Again, unlike the U.S., many companies in Germany have a long-term perspective on their employees' tenure and therefore are willing to absorb much of the cost of on-the-job training. There are no

uniform, nationally accepted certification standards in this country as there are in Germany.

Our analysis, therefore, is based on four school-to-work programs in the U.S. that share some features with youth apprenticeship--agricultural education, cooperative education, career academies, and tech prep.

Four School-to-Work Models in the U.S.

Agricultural Education

Students receive hands-on, practical work experience from local employers and community members, building on an applied academic education in the classroom. The distinctive feature of agricultural education is the socialization students receive into the world of work through auxiliary activities such as 4-H and Future Farmers of America (FFA). These activities, which have become almost as much a formalized part of their education as the classroom, give students opportunities to practice their skills and demonstrate their knowledge to peers and future employers. These auxiliary programs are particularly effective in teaching leadership and personal development skills (Gore, 1988).

Cooperative Education

Co-op education is not standardized, but high school co-op students usually spend the morning in academic classes recommended and approved by a school co-op coordinator and the afternoon in a job for which they get paid and also receive high school credits toward graduation. Most co-op programs provide no workplace credentials for participation. The rewards are early workplace exposure, wages, and a high school diploma upon completion.

Career Academies

Academies are organized as schools within schools. The idea is to create a small learning community to foster long-term relationships between students and teachers and create a peer culture that supports aspiration and achievement. Each academy has a particular vocational, occupational, or industrial theme. Within that theme, the academy provides a structured program blending applied academics, workplace exposure, and career counseling. Local employers serve as advisers and mentors and provide job placements and internships for students and graduates.

Tech Prep

The central concept of tech prep is the articulation of secondary school with community college programs in occupational areas. It usually involves the coordination of curricula during the last two years of high school and the first two years of community college, with a common core of required proficiency in mathematics, science, communications, and technology. The programs lead to an associate degree or a certificate in a career field. Tech prep programs offer broad preparation for a cluster of occupations. Sometimes a work component is included, and some programs provide for employment during summers. Employers provide job placements and serve as advisers for the design and implementation of the programs.

We now assess how the four components of youth apprenticeship work in these four program models.

Component 1: Student Participation

If youth apprenticeship is to have a realistic chance of widespread acceptance in this country, it must prepare a broad segment of the population and include college-bound students. However, increased focus on the college-bound creates the risk of an admissions process that excludes less accomplished students. A central question, then, is whether it is possible to develop a youth apprenticeship system that finds a middle ground between the stigma of a

"second-best" track and the restrictiveness of a selective program for the best students.

Among current school-to-work models, *tech prep* programs come closest to breaking the barriers between traditional vocational and academic students. Although tech prep programs preserve the distinction between students headed for community college and those bound for four-year degrees, they nonetheless increase the postsecondary education opportunities for a broader group of students.

Agricultural education has also had some success in reaching a wide range of students, at least within the agricultural community. Because the family-owned farm has given way to large, specialized, high-tech, corporate farming operations, youth are more likely to end up in production support positions than as owners/operators. This fact has forced agricultural vocational schools to recruit nontraditional students and provide programs where the agricultural/vocational component is often peripheral to the academic component.

Cooperative education programs that carry the negative stereotype of vocational programs have fewer applicants (U.S. General Accounting Office, 1991). Most programs, however, have admission standards: an average GPA of at least 2.0, good attendance, a positive attitude, and a lack of disciplinary problems, in addition to specific employer requirements. Nonetheless, co-op students tend to come from lower socioeconomic levels and to have lower than average test scores.

While high school co-op seems closely linked with the perception of vocational education, there is a strong tradition of co-op-like education at four-year colleges. Many engineering students, for example, participate in co-op programs. The acceptance of the co-op approach for advanced professional training is evidence that a similar approach might have appeal beyond students traditionally attracted to vocational education.

The *career academy* movement originally targeted youth who lacked academic and occupational focus, but many academies have broadened their mission to prepare students for college as well as full-time employment. Successful academies attract more applicants, increasing competition for placement in the program, and, in some cases, resulting in pressure to raise admission standards. Nevertheless, most academies still target students who have not excelled in a conventional school environment and who are unlikely to have plans to attend a four-year college.

Component 2: Educational Content

The logic of a youth apprenticeship system points to an emphasis on broad conceptual, problem-solving skills. But where does this leave the actual preparation for jobs? Is it possible to develop a curriculum that combines both academic and vocational components without sacrificing the quality of either the vocational or the academic component?

The *tech prep* and *academy* models try to combine academic and vocational instruction, using applied coursework to provide a conceptual framework. This approach builds on the cognitive science finding that students learn more effectively if the barriers and distinctions between in- school learning and out-of-school activities are broken down (Raizen, 1989; Berryman and Bailey, 1992).

The academic portion of most tech prep programs is similar to college prep programs; each prepares students for postsecondary instruction, albeit in different types of institutions. In Canton, Ohio, tech prep students take a series of high-level applied "tech" courses (Tech Math, Tech Chemistry, Tech Physics, and 20th-Century Literature and Composition) that connect abstract knowledge to workplace applications.

Usually, *co-op education* students attend traditional academic and vocational classes with non-co-op students. As a result, integration depends primarily on the co-op coordinator/counselor. But coordinator responsibilities are added to teaching duties, and the counselor is typically responsible for the recruitment of students and the supervision of 50 to 60 students' classroom and workplace instruction. In addition, the counselor is the liaison between the school and the employer.

Unsurprisingly, integration of co-op students' school and worksite learning varies widely and is often haphazard. Indeed, the benefits of the co-op experience are seen to lie in strengthened work habits and in greater maturity and employability rather than in supporting academic learning.

Because of radical changes in the industry, *agricultural education* courses have more academic content, and students are now required to take physics, engineering, and chemistry (Rosenfeld, 1983). Aside from these changes, the integration of coursework and practical learning experiences has always been a strong element of agricultural education, with a focus on behavioral and leadership skills.

Student organizations such as Future Farmers of America and 4-H are integral parts of the process. In these organizations, students learn leadership and technical skills in a manner that reinforces management training, problem-solving skills, goal-setting, and achievement based on group as well as individual performance.

In most agriculture programs, students are required to set up and run their own businesses (McCormick, 1988), and they are encouraged to explore fields of study beyond agriculturally oriented subject matter. As a result, students graduate with solid experience not only in their area of specialization but also in peripheral disciplines.

Component 3: Location of Instruction

In apprenticeship, the workplace is supposed to be the learning place, not simply an environment where students gain practical experience and specific job skills. How can the workplace be used as a place of instruction? What will motivate employers to participate? How can the quality of employer instruction be assured? Does workplace learning complement and enhance the learning that takes place in the classroom?

Employer Participation

In the U.S., the high rate of turnover among young workers might discourage employers from investing in apprenticeship. Although research indicates that training increases the tenure of employees (Mincer, 1988), a large-scale apprenticeship program would have to involve employers who may not have enough job openings to hire all of their graduating apprentices.

Reducing the cost to employers through lower training wages or direct subsidies has not proved effective. In one instance, less than one-fifth of private employers were willing to take on demonstration youth even at a zero wage (Ball and Wolfhagen, 1981), apparently believing that the young people would not contribute enough to justify the effort to supervise them.

The Workplace as a Learning Place

There is growing disillusionment with the quality of learning on the job. The vast majority of U.S. employers remain firmly committed to traditional production processes that depend on low-wage, low-skilled workers. Even if such employers could be convinced to take on young apprentices, the quality of education students would receive in these settings is questionable.

Programs that simply place young people on the job to gain work experience are not effective. The quality of on-the-job training is heavily dependent on who happens to be around to provide the training. In work groups with high turnover, "almost novices" train actual novices, a situation that violates models of good apprenticeship training (Scribner and Sachs, 1990).

Education Programs

All four school-to-work programs discussed in this brief fall short in effectively using the work site as a learning

environment where students are taught by employers. Few programs require participating employers to teach, settling instead for the presumed benefits of students' exposure to an actual workplace.

Agricultural education has successfully incorporated activities in 4-H, Future Farmers of America, and Supervised Occupational Experiences (SOEs) into students' educational experience. SOEs are 12-month projects outside the classroom that give students actual work experience, develop their applied skills in basic math and science and in technical agriculture, and link them to the larger agricultural community and, thus, to potential employers.

In many *tech prep* programs the links to employers are tenuous, rarely going beyond employer participation in the development and design of the program. The fundamental characteristic of tech prep remains articulation between the high school and the community college, not instruction on the job.

Similarly, *career academies* have promoted educator/employer collaboration but have not developed the workplace as an instruction site. Employers are heavily involved in the academies, and student employment experiences are well- paying, substantive opportunities. But the nature of the learning that takes place in the workplace is still not well understood.

Unlike the other programs, *co-op education* is based in the workplace. Unfortunately, we know very little about the quality of job placements in co-op education or about the quality of the learning that takes place in these jobs.

Component 4: Credentialing

The diverse goals of apprenticeship create problems for credentialing. How specific or narrowly defined should the certified skills be? Should graduate apprentices be considered skilled craft workers or given more general certification, something like a diploma from a high-quality secondary school?

Of the programs described in this brief, some *tech prep* efforts have gone the furthest in addressing the need for credentials. In 1990, the American Technical Education Association (ATEA) established national minimum standards for all tech programs (McGrath, 1991). In many states, these standards have been integrated into the tech prep curriculum.

Competency-based curricula have not been as extensively developed in the *academies*, which rely more on informal contact with participating employers.

Agricultural education has started to develop assessment and credentialing tools, and competency-based courses have been developed in many places.

The *co-op education* system lacks any specific certification procedures. Co-op programs rely on soft credentials such as letters of recommendation from employers. Further, the establishment of training standards is but a vague goal for most co-op programs.

Conclusion

Student Participation

Although many programs have expanded their enrollments beyond at-risk youth or traditional vocational education students, two negative tendencies emerge:

Programs that serve a wide variety of students tend to become internally differentiated, perpetuating the divisions between types of students.

Students preparing for college are only tenuously involved. And, with the exception of some agricultural programs,

when programs reach out to college-bound students, less academically oriented students tend to be excluded.

Educational Content

Efforts to integrate academic and vocational content remain limited. Still conceptualized as a reform of vocational education, the integration strategy has barely penetrated traditional academic and college prep programs. Moreover, the trend toward integration remains primarily in the classroom, and very little is known about how the workplace can be used most effectively in this strategy.

Location of Instruction

The apprenticeship model calls for the transformation of workplaces into integral parts of the nation's basic education system. None of the four school-to-work models that we have examined even approaches that level of employer involvement.

If youth apprenticeship is to become a reality, we must address the issues of both employer participation and on-the-job pedagogy. The two issues are closely linked. If employers need to be cajoled into participating, educators lose their leverage to demand improvements in the educational experiences that employers offer apprentices. It is likely that the interests of the employer will in many cases diverge from its apprentices. If this is true, the market will not offer incentives for firms to search out the best educational strategies.

Credentialing

Credentialing at this time is ad hoc. The value of a particular diploma or certificate depends almost entirely on the reputation of the educational institution that conferred it. A number of state and local efforts are under way to develop competency standards and assessments, but little progress has been made in the development of nationwide methods to standardize certification.

The more narrowly defined the occupational goals of a program, the easier it is to develop standards and credentials; as programs move toward a model such as youth apprenticeship in which occupational training is used to provide a broad foundation, credentialing becomes more problematic.

Development of a large-scale youth apprenticeship system in which a significant part of the learning takes place on the job is a long way off. Schools should continue trying to strengthen relationships with employers, but they have to recognize that employer interests may not coincide with providing the best educational experience for students. There is no escaping the need for an appropriate set of institutions to regulate workplace education.

Despite the obstacles, efforts to adopt youth apprenticeship are extremely important. Many of the reforms associated with apprenticeship--efforts to break down the distinctions between learning and working, school and community, academic and vocational, and college-bound and non-college-bound students--can make fundamental contributions to the overall improvement of education.

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U.S. General Accounting Office, Division of Human Resources. 1991, August. *Transition from school to work: Linking education and worksite training*. Report to Congressional requesters.

This brief is a distillation of a paper by Thomas Bailey and Donna Merritt entitled *School-To-Work Transition and Youth Apprenticeship in the United States* (New York: Manpower Demonstration Research Corporation, 1992). The research was supported by the Manpower Demonstration Research Corporation as part of its study of innovative programs that help students make the transition from school to work.

OPENING CAREER PATHS FOR YOUTH:

WHAT CAN BE DONE?

WHO CAN DO IT?

Stephen F. Hamilton
Mary Agnes Hamilton
Cornell Youth and Work Program, Cornell University

President Clinton's School-to-Work Opportunities Act provides "venture capital" to stimulate the creation of *systems* in every state to connect school with work. Although the legislation refers to movement from school to work, the real challenge facing young people is to enter attractive *career paths*. Most young people can find work; indeed, the majority work extensively while enrolled in high school.

Youth jobs can serve as an introduction to employment, teaching basic work skills and attitudes such as punctuality and customer relations. But they rarely require or teach advanced technical skills. Employers define such jobs to accommodate workers with less than a high school diploma and to minimize their investment in training. Sadly, most employers believe these are the only jobs teenagers and young adults are qualified to hold. Therefore, most young people must work in low-skill, low-wage jobs for years after their initial work experience. High school graduates are more likely to find jobs than dropouts, but dropouts who are able to find jobs do the same work as graduates. This gap between school and work inhibits the productivity of young workers, squanders society's investment in their education, isolates youth from adults, and undermines high school students' motivation to achieve.

When entire communities are bereft of legitimate economic activity, young people may logically conclude that nothing they do will improve their life chances. Young people who live in economically devastated urban and rural areas, whose families are unable to nurture them, and who face serious personal impediments to employment (e.g., physical or mental challenges, criminal records, drug addiction, premature parenthood) need all the support that their more fortunate peers need plus remedial education and social support. Special programs for such youth will be more effective when they augment and lead into mainstream career opportunity systems that serve everyone.

The prospect of an attractive and attainable career gives young people an incentive to gain academic competence and to behave in a socially responsible manner. Connecting school more closely to employment will provide this incentive, thus enhancing the educational quality of the American work force. Whether they earn As or Ds, whether they say no to drugs or yes, will begin to matter only when people in their early twenties can find employment in jobs that pay well above minimum wage and provide benefits, security, and opportunities for advancement.

For the past three years, we have directed Cornell's Youth Apprenticeship Demonstration Project in Broome County, New York, which has been implementing the three essential components specified in the new federal legislation: work-based learning leading to formal credentials; school-based learning organized around career majors; and strong connections between school and work. This essay conveys some lessons we have learned.

We have found that employers are willing and able to provide carefully planned and supervised work-based learning experiences for young people beginning in high school and that those experiences are highly beneficial.

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Youth apprentices gain work-related knowledge and skills, and they are inspired to take harder courses and continue their education. When workplaces become learning environments for youth, they also become learning organizations for adults.

Participants in our project are predominantly C students, "middle kids" who need an extra boost to achieve their full potential, to foster their transition from school to career. *All young people need help to enter rewarding career paths; those without four-year college degrees need the most help.* Our enrollees become apprentices in manufacturing and engineering technology, health care, or administration and office technology. We have had about 20 students in each cohort from six different high schools. Ten different firms now participate: Amitec, Imaging Products Division of International Paper, Upstate Medicare Division, Blue Cross and Blue Shield of Western New York, Inc., Columbian Mutual Life Insurance Co., Doron Precision Systems, Inc., Good Shepherd Fairview Home (a long-term care facility), IBM Corporation, Endicott, New York, Lourdes Hospital, The Raymond Corporation, Security Mutual Life Insurance Company of New York, and United Health Services Hospitals.

We use the term "youth apprenticeship" because it manifests our intention that participants who complete the program after two years of high school and two years of community or technical college will be fully certified in highly skilled occupations. It also emphasizes the centrality of work-based learning. Youth apprenticeship, however, should be seen as the keystone of a larger structure, which the new legislation calls a school-to-work opportunities system.

To emphasize the distinction between finding work and entering a career path, we use the term, "career opportunity system." "Career" here means a lifelong occupational journey involving both education and employment. It does not mean a single job or even a single occupation. By this definition, everyone has a career, but some careers are chaotic while others are orderly; some are well-paid and prestigious while others are not. Some people move randomly among unrelated jobs with no perceptible advantage, while others steadily gain more skills, responsibility, and compensation. In an era of downsizing, plant closings, and technological obsolescence, lifelong learning is no longer the preserve of the ambitious; it is a necessity for all. Initial education and training are essential to a contemporary career, as are continuing education and training.

This essay sets out the rationale for a career opportunity system and identifies its key components, emphasizing the complementary contributions of organizations and individuals participating in it. We hope by sharing these ideas to stimulate discussion and to guide planning toward the creation of career opportunity systems across the country.

Why a Career Opportunity System?

To make the most of the present, *young people need to have a hopeful vision of the future and an idea about how to get from where they are now to where they would like to be.* They need not, indeed cannot, know precisely what the future holds and how to prepare for it, but they should have enough information to make wise choices. For example, several participants in our demonstration project have observed and assisted physical therapists, learning knowledge and skills essential to that profession. More important, they have learned that physical therapy assistants must have two years of college, physical therapists four years, and orthopedic surgeons six or eight years of medical school after college. They learn that they must take courses that open other options in the future such as college preparatory biology and math to qualify for admission to the community college program, in contrast to taking the fewest general-level courses required for high school graduation and a diploma that usually leads nowhere.

Our society provides reasonably *transparent* career paths for the quarter of our youth who earn baccalaureate degrees. Even college graduates who do not have specific career plans obtain entry-level professional positions because of their learning and credentials. In contrast, we offer little guidance to the remaining three-quarters of young people who complete their formal education without a bachelor's degree. Many of the occupations open to them have no specific educational requirements.

Such an unsystematic transition from school to work wastes the productive potential of youth and young adults and the tax money spent for their education — and often spent again for remedial courses they take as adults. The absence of clear connections between school performance and employment opportunities makes career paths *opaque* for high school students who do not plan to enroll in selective colleges and leads them to believe they need not exert themselves. They drift through high school taking the minimum number of the easiest courses and doing the smallest allowable amount of work. Only after several years of work experience in jobs typically held by youth do they begin to gain access to jobs that require communication and reasoning skills, mathematics, and science. The most ambitious return to school to try to fill these gaps, but at great personal and societal cost because they must earn a living at the same time to meet financial and family obligations they did not have as teenagers.

Other countries' career opportunity systems demonstrate that this problem can be addressed institutionally; it is not an inevitable consequence of youthful indecision and irresponsibility. To make the most of our human resources and educational spending, the United States

must design and build an effective career opportunity system that matches our economic system and our societal values.

Connecting School with Work

Work-based learning is at the core of an effective career opportunity system, and youth apprenticeship is the most highly developed form of work-based learning. Work-based learning opportunities vary in their duration, intensity, and formality so they can meet the needs of young people of different ages and with different future plans. Ideally, every community should offer an array of work-based learning opportunities. Recognizing that the terminology is not precise, we envision that array as including community service, field trips and job shadowing, youth-run enterprises, exploratory work, youth jobs, employment training programs, unpaid internships, cooperative education, and youth apprenticeship (see Figure 1).

> *Community Service* gives young people experience that is like work even though it is unpaid. They can learn planning, teamwork, responsibility, and specific work-related skills. In addition to schools, youth organizations such as 4-H, scouts, vocational clubs, and church groups sponsor community service. Its most elaborate forms are national service and conservation corps, which may be residential and carry a stipend for living expenses and an opportunity to earn a scholarship for postsecondary studies.
>
> *Field Trips and Job Shadowing* enable young people to observe adults in work settings, learn the requirements of various jobs, and experience the flow of a typical workday.
>
> *Youth-run Enterprises* teach basic work skills and also managerial and entrepreneurial skills. An advantage of school-based enterprises, Junior Achievement, and related programs is that they give young people highly responsible roles that would not be accessible to them in adult workplaces.
>
> *Exploratory Work* involves actual work in addition to observation and may last for a few days or a few weeks. Exploration entails spending time in a variety of workplaces. Exposure is the main outcome rather than skills.
>
> *Youth Jobs* are those already available to high school students, typically in food service, retail, and clerical fields. They seldom require or teach specific job skills, but young workers often gain personal and social skills such as punctuality, teamwork, responsibility, and responsiveness to supervisors and customers.
>
> *Employment Training Programs* are usually reserved for disadvantaged youth. They include summer programs for in-school youth as well as programs for high school dropouts and graduates. As part of a career opportunity system, such programs would give completers certified skills enabling them to find jobs or continue their education and training.
>
> *Unpaid Internships* give young people workplace roles that sometimes are more responsible than they would have as paid workers.
>
> *Cooperative Education* is a formal arrangement in which students earn both school credit and pay for work related to their studies.
>
> *Youth Apprenticeship* is of longer duration than cooperative education, is organized around the mastery of specific competencies, and leads to formal, portable credentials.

Like registered apprenticeships that train highly skilled craft workers in construction and manufacturing, youth apprenticeship offers well-planned, carefully supervised work experiences designed to impart specific knowledge and skills whose mastery is attested by formal skill certification. Youth apprenticeships are different from currently registered apprenticeships because they engage high school students in a wide range of occupations, including technical and white-collar administrative occupations, and they combine work-based learning with both secondary and postsecondary education. Youth apprenticeship is a logical extension of cooperative education, which is shorter and less formal than apprenticeship and does not yield a widely recognized credential.

A comprehensive career opportunity system will make available to all young people a form of work-based learning that is appropriate to their age, capacity, and future plans. All young people should engage in community service. Unpaid work experience may lead to paid work experience for some young people, but it could be the only form of work-based learning for others. Cooperative education and youth apprenticeship could enrich all students' education but are most important for those who do not expect to graduate from a four-year college. Less intensive forms of work-based learning may serve as preapprenticeship experiences for those who will subsequently become youth apprentices and as apprentice-like experiences for those on career paths that do not require apprenticeships or for which apprenticeships may not be feasible.

To assure that work-based learning contributes significantly to a broad education, rather than serving simply as exposure to work, it must be closely tied to school-based learning. Several approaches now being used to relate academic and vocational education are promising for this purpose. The new federal legislation calls for "career majors," which organize students' course work around a particular career area, providing greater coherence, relevance, and sense of

direction than most high school students now find in their courses. Career majors are also a means of integrating vocational with academic courses.

Career academies take this idea a step further. They are schools within schools based on occupational themes, such as health care, electronics, tourism, or finance. Career academies give high school students a small community of teachers and students with whom to identify and a career focus for their learning. They also demonstrate that an occupational theme need not constrain students' career paths. For example, one student in a health care academy might plan to become a physician and another a nurse, but both take demanding courses in biology and chemistry that will serve them well even if the first student decides to go into business rather than medicine and the second decides to become a diagnostic imaging technologist.

Tech prep is another means of relating school to employment. Its central idea is that high school students with vocational inclinations take courses that prepare them for postsecondary education as well as employment. A continuous, related set of courses in high school and in two-year college provides a clear path through school into desirable employment. Encouraged by federal legislation (the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990), tech prep is a way of upgrading the academic content of vocational education and including work-based as well as classroom learning in the curriculum.

Choosing a Career Path

Youth apprenticeship, cooperative education, career majors, career academies, tech prep, and related approaches share an occupational focus, raising the question of whether it is realistic to expect high school students to decide on an occupation. They should avoid choosing an occupational focus in high school that will limit their future directions. As implied in the career academy example above, limitations can be avoided by setting high academic standards and defining occupational areas broadly.

The majority of high school students limit their future prospects by choosing the general curriculum, which allows them to select courses from the "shopping mall high school" without a clear plan or purpose. Even vocational students tend to browse casually among unrelated courses, preparing to do nothing in particular after graduation. The results of the Broome County demonstration project confirm that far more high school students are capable of satisfactorily completing courses at the college preparatory level than are now enrolled in them.

Taking a full complement of challenging academic courses opens options for young people, giving them real choices, both immediately and in the future. Employers advise apprentices and teachers that they need technicians who know calculus, physical therapy assistants with deep knowledge of anatomy, and claims adjusters who can write coherent letters. General courses are not enough. The availability of such advice is a key component of a career opportunity system. Most high school counselors are already overburdened helping students plan their courses and apply to colleges. Few have the time or the knowledge to do career counseling.

Defining occupational areas broadly is also critical. Students should not aim for a specific job, because it may not be available or even exist by the time they complete their preparation, but for a cluster of related occupations. Specialization within the occupational area can be delayed until after high school graduation. For example, during her first two years a manufacturing and engineering technology apprentice might learn basic drafting, electronics, and machining. Upon entry into community college she could begin to specialize in one of those three areas. Leading European apprenticeships are increasingly structured this way, with early breadth and later specialization. In this country new associate degree programs will help to prepare flexible specialists in such occupations as mechanical–electronic technician or chemical manufacturing technician.

Another key to an effective occupational focus for high school students is to provide sufficient information, career advising, and firsthand experience before requiring them to make a choice. Purely school-based career education does not work well because it is disconnected from real career choices. Fourteen-year-olds have trouble taking career education seriously when they do not expect to make career decisions for ten years or more. If those same young people anticipate choosing a career academy and an apprenticeship within a year or two, then information about careers, advising, classroom visits from adults to talk about their work, site visits to a range of workplaces, mentoring, job shadowing, trial apprenticeships, and similar experiences will be much more effective learning opportunities.

Creating a System

Because many components of a career opportunity system already exist, we do not need to build a system from the ground up. *The challenge facing us is to bring existing components together as a coherent whole that serves the needs of all young people.* Those components currently are free-standing programs in scattered communities, usually serving only a small proportion of those who could benefit from them.

Systems, in contrast to demonstration programs, are big enough to serve everyone. They include the entire range

of components, organized so that participation in each leads logically to the next. A genuine career opportunity system is connected with the educational system on one side and the employment system or labor market on the other. To illustrate, a young person might enter the career opportunity system by participating in career education activities in middle school. By ninth or tenth grade she would have a basis for making a choice, with help from parents and a school adviser, of a career academy in the high school. Further information about her chosen occupational area, including field trips, job shadowing, and extended unpaid experience, would substantiate her decision about which apprenticeship to choose. That apprenticeship would entail taking specific courses in high school and postsecondary education. Having mastered a rigorous set of academic and work competencies, she would be prepared by age 19 or 20 both for skilled employment and for education continuing throughout her lifetime.

Creating such a system will require an unprecedented level of collaboration between schools and employers and must also include parents, employees' and professional organizations, and community groups. Responsibility for coordinating the multiple components and fostering communication among partners is best lodged in a sponsoring organization that is trusted by all but controlled by none. An ideal sponsoring organization acts as an intermediary among the partners and spans an entire labor market area, something few school districts do. It assures that responsibility for the transition from school to career is not left to schools alone and that employers provide truly educational work experience, avoiding the temptation to exploit cheap labor. Another function of a sponsoring organization is to foster constant communication among all partners in the system.

Standards are at the center of a career opportunity system. They make the system's objectives concrete and provide a basis for assessing both the system as a whole and the performance of young people in it. The content of academic and occupational education and of work experience is derived from the specification of competencies associated with each occupation. Those competencies, in turn, are best identified by employers and by experienced skilled workers in each occupation.

Standards can be set locally, but ultimately they must be adhered to at least statewide and, ideally, nationally. There is no need for each community to invent standards anew. Furthermore, in addition to their function as targets for instruction and milestones for assessment, standards substantiate credentials. Only national standards enable a person to transfer skill credentials from one state to another, as is now possible for many professionals (e.g., physicians) and for skilled craft workers who have completed registered apprenticeships.

When standards are carefully selected and defined and their mastery is assessed with valid measures, they serve as milestones marking career paths. But standards and credentials can also be roadblocks, impeding movement along career paths. One way to make career paths both clearly visible (transparent) and easily traveled (permeable) is to define standards broadly so that as many as possible apply to multiple career paths. Another is to organize standards into "modules," related sets of competencies that constitute freestanding units. When career standards are arrayed in modules, they can be combined in a variety of ways to constitute standard, customized, and multiple credentials. Modules facilitate cross-training, transfer, and upskilling.

The School-to-Work Opportunities Act of 1994 envisions integrating new local and state-level efforts with current education and employment training programs rather than constituting a new and autonomous system. Although many different challenges lie ahead, the greatest is securing strong and lasting commitments from employers.

Work-based learning absolutely requires employer participation, which will occur only if employers believe that they will gain more by investing in the education and training of young people than by trying to compete in the global economy with uneducated and unskilled workers. If employers are not prepared to make this commitment, schools alone cannot make a sufficient difference. Dependence on employer participation has been identified as a weakness of youth apprenticeship because of some indications that most employers are content with low-skill workers. If employers are unwilling to pay high wages for highly skilled workers, however, no education reform, whether school-based or work-based, will improve the lot of workers in the United States because the economy's base will erode.

Components of a System

Career information and advising

Before they can make sound choices about their education, young people need a sense of where it can lead them. Everyone needs to become familiar with possibilities, even long before specific career choices are necessary (see Figure 1). Career information should be

- Broad and varied enough to include the entire range of career pathways
- Age appropriate
- Started in elementary school and continued through higher education
- Based on observation and experience as well as information
- Organized to include parents

High academic standards for all

Career pathways should open doors, not track some young people into low-level and dead-end positions. The need for standards has become more important as employers increasingly seek workers for positions that do not require four years of college but who are well-educated, good problem solvers, cooperative, and capable of continuous learning. New technology and new forms of work organization are rapidly closing the gap in educational requirements among different levels of workers. High academic standards mean that

- All high school graduates earn diplomas qualifying them for higher education
- Work-related or vocational education is an alternative means to the same high standards held for college-prep students
- Students may follow different educational pathways (and take different lengths of time) to achieve the same high standards
- Academic courses are related to career paths
- Community college courses may be taken during high school

Career majors and career academies

Career majors and career academies enable students to organize their education around a career area, giving them an increased sense of purpose and a clearer target to aim for. Career academies also provide a greater sense of belonging and more flexible schedules than conventional schools offer. They have two advantages:

- High school students have the option of organizing their studies around a career major
- Flexible scheduling allows opportunity for work-based learning

Work-based learning

The range of work-based learning opportunities has been described above. Two points deserve emphasis. One is that each community should offer a variety of work-based learning opportunities to meet the different needs and capacities of all young people. Second, work experience is more educational when the following supports are in place:

- Careful planning of what young people will learn and how
- Competent supervision, coaching, and mentoring by adults
- Evaluation and documentation of learning
- Opportunities at school and at work for thoughtful reflection on what has happened and what it means
- Multiple connections between school-based and work-based learning

Connections between school-based and work-based learning

As former U.S. commissioner of education Harold Howe has said, "The marriage between school and work enriches both." A system requires multiple effective links between the two learning settings, including the following:

- School credit granted for work-based learning
- School courses teach knowledge and skills used at work
- School courses and projects draw on work experience and work issues
- Parents are knowledgeable about both school and work
- Case management provides support and problem solving across both settings and involves parents
- School coordinators and workplace coordinators communicate frequently
- Reports on work-based learning are shared regularly with school and parents
- Students receive advice and encouragement (mentoring) at work and school on course selection and performance and on career planning

Institutional Arrangements and Responsibilities

Partnership is the key to constructing a system out of already existing programs and new components. The most challenging new component is systematic work-based learning, epitomized by youth apprenticeship. Securing opportunities for large numbers of young people to engage in work-based learning entails multiple new connections among existing institutions and a solid institutional foundation. The following entities must be involved:

- Employers (individual employers, industry or trade associations)
- Schools (school systems, area vocational centers, community, technical, and vocational colleges)
- Employees (unions, professional organizations, representatives of employees without formal organizations)
- Young people
- Parents
- Community organizations (school/business partnerships, neighborhood organizations, affinity groups, Cooperative Extension)
- Government (federal, state, and regional Departments of Education, Labor, Economic Development, and related agencies)

This partnership plans, negotiates, and helps implement the system. It forms a governing body with the following responsibilities:

- Set policy for the career opportunity system, especially youth apprenticeship
- Participate in program development and implementation
- Constitute subcommittees to pursue topics, issues, and policies, for example, program expansion, education, industry standards, devising credentials, career pathways
- Review plans and implementation reports from project staff and subcommittees

Key responsibilities of each partner are listed below

Employers

- Work with other partners to plan and implement the system
- Identify occupational areas and competencies needed now and in the future
- Help set and assess work-related competence standards
- Organize learning by assigning appropriate work tasks, supervising, and assessing performance
- Communicate regularly with parents, schools, and the sponsoring organization about progress and problems
- Support career education and exploration with information, personnel, and placements
- Use the career opportunity system as the major source for hiring
- Accord young people equal opportunity in all phases of work-based learning without discrimination because of race, color, religion, national origin, age, sex, disability, or marital status
- Refrain from replacing incumbent workers with student learners

Schools

- Set high academic standards
  - Provide appropriate career majors and, where possible, career academies
  - Provide support and alternative means to enable all students to meet those standards
  - Integrate academic and vocational education
  - Give credit for appropriate work-based learning
- Advise about career paths and personal and social problems that impede learning (see Figure 2)
  - Institute case management methods to support students in career planning and work-based learning
  - Connect youth to support services (for example, tutoring, counseling, community services)
- Work with employers and other organizations to implement work-based learning

Employees

- Participate in design and implementation of the system
- Help identify occupations and standards
- Support career education and exploration
- Help teach young people about working life

Young people

- Strive to meet high performance standards in schools and workplaces
- Participate in system planning and improvement
- Participate responsibly in work-based placements
- Seek assistance from the school or the workplace adviser for personal and social developmental needs

Parents

- Work with counselors and others to help children think about and plan for careers
- Encourage and support children's school performance, including academic, personal, and social behavior
- Become informed about career paths
- Support children's participation in work-based learning

Community organizations

- Provide career education, exploration, and counseling as appropriate
- Provide worklike experiences
- Contribute to positive socialization of youth
- Participate in design and implementation of the system
- Coordinate programs with other organizations for optimal impact and efficiency

Government

- Inform partners of relevant laws and regulations
- Grant waivers when appropriate
- Provide data for planning
- Offer consultation on their areas of expertise
- Provide work-based learning opportunities as an employer

A sponsoring organization should be identified or created to coordinate the actions of the partners and to carry out responsibilities beyond the competence or range of responsibilities of the partners. In some communities, this will be a new organization founded expressly for this purpose. In others it will be an organization that is already well positioned to take on the functions. Because work-based learning is the most challenging component of a career opportunity system, the sponsoring organization must be capable of developing and sustaining youth apprenticeships and other forms of work-based learning.

Criteria for a sponsoring organization

- Strong commitment to the development of a career opportunity system in the region
- Capacity to support the functions associated with the governing body and the staff (including networking with partners)
- Legitimacy in the eyes of all partners
- A mission aligned with the goals and objectives entailed in creating and implementing a career opportunity system

Functions of the sponsoring organization

- House the staff
- Oversee finances, help secure funding as needs arise
- Convene partners to plan, make policy, and assess progress

Functions of staff

- Build and support partnerships
  - ▸ Establish and sustain issue committees
  - ▸ Recruit partners
  - ▸ Serve as an advocate and spokesperson for the system
  - ▸ Handle fund raising, inquiries, information releases, media
- Manage and develop the system
  - ▸ Report to the governing body and enable it to carry out its functions
    - —Facilitate implementation of the governing body's policy decisions
    - —Manage daily operations of the office
    - —Articulate directions for system development
  - ▸ Develop, support, and assess work-based learning
    - —Identify career areas and competencies
    - —Facilitate skill certification
    - —Provide or facilitate staff development (employers, schools, colleges)
    - —Resolve problems
    - —Assess the relevance, effectiveness, and quality of the program (in specific schools and workplaces and as a whole)
    - —Market the system to help it expand
  - ▸ Work with partners to identify courses and to create an advising structure
  - ▸ Facilitate research and development

Scale and Sequence

Ultimately, *a career opportunity system must serve all young people*. Those who expect to enter the full-time work force without a four-year college degree are the most in need of youth apprenticeship. Eventually between one-quarter and one-half of the youth population might be enrolled in youth apprenticeships, depending primarily on employers' demand for well-educated and highly skilled workers and the availability of effective school- based learning opportunities. This would require places amounting to up to 5 percent of the American work force.

Although this goal sound ambitious, if work-based learning lasts for four years and 80 percent of participants complete that period of training and apply for regular positions with their training employers (a very high percentage), then employers would need only a 1 percent annual replacement or expansion in their work force to absorb all their trainees. A system of this magnitude clearly cannot be created in a year or two. The process of system building and the growth of employer commitment and capacity will take at least a decade. The best way to initiate this process is for employers to begin on a small scale and gradually develop needed staff skills. As they do so, they will discover the multiple benefits of becoming learning organizations. Planners must set out a challenging but feasible time frame and anticipate the sequence in which components of a system will be put in place.

Conclusion

The School-to-Work Opportunities Act will not automatically produce precisely the system it calls for, which we have outlined. Many people and organizations must take action before this vision can become a reality; it cannot be legislated into existence. But, the legislation and its modest funding will reinforce some current efforts and stimulate new activity that may lead eventually to the establishment of new and more effective ways for young people to initiate and sustain their occupational careers. At this stage in a new movement, debates are common about whether enough is known to act or whether more research and development are needed before proceeding. We believe the time has come to design and implement career opportunity systems on a large scale but that all the partners should act in a reflective and exploratory manner. A national discourse among all the partners about insights gleaned from their actions should guide the evolution of local, state, and national systems that open career paths for all youth.

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Youth Apprenticeship "American Style" and Career Development

Kenneth B. Hoyt

As America's occupational society moves from a low skills to a high wages nature, the popularity of both work-based learning in general and youth apprenticeship in particular is growing rapidly. Both counseling and counselors in educational settings are currently being downplayed, and job mentors are being played up by leaders in the youth apprenticeship movement. The need to counsel persons regarding a variety of forms of postsecondary education is growing rapidly. The counseling profession should become actively involved in meeting this need with respect to all forms of work-based learning. The challenges are especially great with respect to youth apprenticeship programs.

Almost all major educational reform proposals of the 1980s used, as a part of their rationale, the need for America to compete effectively in the international marketplace by preparing highly qualified workers. Yet, none of those proposals was centered on the goal of relating education and work more effectively.

The decade of the 1990s began with a dramatic change in this approach. With publication of *America's Choice: High Skills or Low Wages* (Commission on the Skills of the American Workforce [CSAW], 1990), American education was challenged to change its structure and operations dramatically. Youth work-based learning is a centerpiece of this new reform proposal. No other new proposal heading in a different direction has come along so far in this decade.

The generic topic of "work-based learning" and the specific kind of work-based learning being referred to as "youth apprenticeship" hold great implications for all career development professionals. The purposes of this article are to: (a) document the current popularity of youth apprenticeship; (b) clarify the nature of the youth apprenticeship movement; (c) identify some of the ways leaders in the youth apprenticeship movement perceive career counseling; and (d) discuss a series of possible action implications for career development specialists with respect to youth apprenticeship.

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THE CURRENT POPULARITY OF YOUTH APPRENTICESHIP AND WORK-BASED LEARNING

First, a few examples will be presented to illustrate the current nationwide popularity of the work-based learning concept. The Council of Chief State School Officers (CCSSO; 1991) recently issued a report centered entirely on the topic of "connecting school and employment." That report endorses the concept of work-based learning as an important component. To help implement this endorsement, the CCSSO, using Pew Foundation grant funds, has awarded $20,000 to each of 10 state education agencies to construct demonstration projects in youth apprenticeship. This topic remains a top priority of the CCSSO.

On October 26, 1990, Senator Sam Nunn introduced S.3257—Youth Apprenticeship Act of 1990. Although no hearings were held on this bill, it has at least called the attention of the Congress to this topic. On October 2, 1991, Congressman William Gephardt introduced H.R. 3470—the High Skills, Competitive Workforce Act of 1991. Senators Edward Kennedy and Mark Hatfield introduced a companion bill—S.1790—containing identical wording in the Senate. This bill follows very closely the recommendations—including a recommendation for "youth apprenticeship"—found in the *America's Choice: High Skills or Low Wages* (CSAW, 1990) report referred to earlier.

October, 1991, marked publication of the first issue of *Student Apprenticeship News*—specified tc be "an occasional newsletter for those interested in the progress of youth or student apprenticeship in the United States" (Halperin, 1991). This issue contains information on 31 specific youth apprenticeship activities.

Endorsements of youth apprenticeships have come from a variety of sources. A good illustration is an article written by (then) Arkansas Governor Bill Clinton (1991) in which he stated the following:

> the best alternative is to craft an American version of European apprentice-ships . . . Most (high school youth) are working at jobs they will not hold 12 months after they get out of high school . . . what they are doing on the job is unrelated to what they are learning in school . . . if you put . . . these young people in apprenticeship programs, you'd be doing them a . . . favor. (p. 23)

The basic rationale behind these supportive actions lies in the difficulties recent American high school graduates seeking to enter the labor market have in making the transition from schooling to employment contrasted with their counterparts in other industrialized nations (Barton, 1991; Bureau of Labor Statistics, U.S. Department of Labor, 1991; U.S. Department of Labor, 1989; *America's Choice: High Skills or Low Wages,* [CSAW, 1990]). Whereas in Germany almost all high school graduates seeking employment make a speedy and successful transition from schooling to employment, their American counterparts typically wind up in the "secondary labor market"—that is, in jobs that offer low pay, no job security, no health or sick leave or vacation benefits, and no opportunity for

advancement up a career ladder (Hamilton, 1990). In *The School-to-Work Connection* (1990), Marc Tucker, President of the National Center on Education and the Economy, is quoted as saying "The U.S. system for transitioning from school-to-work is the worst in the industrialized world." The youth apprenticeship movement is currently being widely viewed as a way of correcting this deficiency.

THE NATURE OF YOUTH APPRENTICESHIP

A recent generic description of what is called "Youth Apprenticeship, American Style" has been provided by Nothdurft (1991) in a report he prepared summarizing the National Youth Apprenticeship Conference held in December, 1990. This report emphasizes that "youth apprenticeship, American style" includes: (a) strong career exploration, grades 7 through 9; (b) career counseling leading to career decisions in grade 10; (c) increasing proportions of time spent at the work site rather than in the school in grades 11 and 12; (d) almost full time at the work site preparing for the apprenticeship exam in what, in effect, amounts to grade 13; and (e) placement either in a job or in further education following grade 13.

General descriptions of youth apprenticeship programs in other nations can be found in articles by Perry (1991) and Vickers (1991). Roditi (1991) has written a special monograph discussing costs of youth apprenticeship programs.

An excellent example of a demonstration effort to establish a youth apprenticeship program has been supplied by Hamilton (1991). The plan he envisioned calls for 25 students in grade 11 to spend 10 to 20 hours per week in *paid* supervised work experience in *broad career areas, not specific jobs.* Successful apprentices will be qualified for employment following high school graduation, but they will also be encouraged to continue their training for another 2 years in a local community college.

CAREER COUNSELING IN CURRENT YOUTH APPRENTICESHIP EFFORTS

A current prime leader in the youth apprenticeship movement is the Jobs For the Future (JFF) organization in Somerville, Massachusetts. Fortunately, this organization, in a 1991 report, presented a list of "essential elements" of youth apprenticeship programs with a definite and pronounced career development emphasis. Their recommendations included (a) a strong career development program beginning with career awareness in elementary school and career exploration in middle and early high school, (b) sound career counseling in the high school, and (c) career development services to community college students including career counseling and job placement. The JFF position on career development is strongly supported by the Council of Chief State School Officers (1991) in their *Connecting School and Employment* report in which the following statement appears:

> Schools must make clear the connection between learning in school and future success in the labor market and must provide opportunities for career and employment orientation beginning in the earliest years. (p. 6)

Other influential forces in the youth apprenticeship movement are not supportive of career development efforts *as part of the education system*. Both the *America's Choice: High Skills or Low Wages* (CSAW, 1990) report and H.R. 3470 call for career counseling services to be provided in a community setting, not primarily in educational institutions. H.R. 3470 is especially interesting in that it calls for the Secretary of Education to make grants to schools or other agencies to design and produce career videos and other career information materials for students in grades 7 through 12 while the Secretary of Labor is charged with making grants to institutions, agencies, or both, that have "well-informed career counselors in middle, high, and alternative schools . . . to provide liaison between students and teachers, students and employers, schools and parents, schools and employers, and secondary schools and postsecondary schools." Responsibility for career counseling is placed in the U.S. Department of Labor, not the U.S. Department of Education in this legislation.

Hamilton's model calls for a division of career development assistance between the education system and the employer at the work site. His divisions are seen as:

- coaches: develop the competencies of the apprentices (work site employee)
- mentors: "counsel the apprentice about career directions and life goals and initiate him or her into the norms of the workplace and its culture" (work site employee)
- guidance counselors: "(1) arrange apprentices' school schedules for released time; and (2) advise apprentices, their parents, and their teachers" (education employee)

In personal correspondence, Hamilton emphasized that this division of responsibilities was chosen primarily because of the minimal training and nonexistent time that most school counselors have for career counseling.

A primary concern of career development professionals, of course, is whether or not youth will be ready to make decisions to enter into apprenticeships by the time they are in the 10th grade. Both Nothdurft (1991) and Clinton (1991) responded to this concern by contending that youth already *are* making serious life choices in the 10th grade—and many are making the wrong choices such as dropping out of high school, giving up on education, or getting into drugs. They felt strongly that, by providing these youth with informed choices through an education system more closely tied to the world of work, 10th graders will have better information upon which to make their choices.

There seems little doubt but that the prime rationale for a youth apprenticeship system rests on educational reforms that more

closely relate the education system to the occupational society. Specifically, it rests on an educational reform effort aimed at producing high skills graduates for a needed high performance occupational society.

Implications for Career Development Professionals

Both work-based learning and youth apprenticeship are being championed primarily because of expected major changes in the nature of America's occupational society that will demand much better educated workers for most occupations. The logic supporting the need for a basic change from a low skills to a high wages occupational society is unmistakable. It seems to be the best and clearest way for the United States to compete in the international marketplace. The conversion, however, is sure to create a number of career development problems for American workers and youth seeking to enter the labor force. This, in turn, holds a series of serious implications for the career development movement. Four of the most obvious implications are discussed here.

Career development professionals may have been wrong in proclaiming that 10th grade is too young for most youth to make career decisions. In asserting that firm career choices for most persons are not expected to occur prior to age 25, it is possible that career development researchers have simply recorded the effects of the "secondary labor market" for noncollege-bound youth. Hamilton (1990), the U.S. Department of Labor (1989), and *America's Choice: High Skills or Low Wages* (CSAW, 1990) agree that most youth seeking employment directly on high school graduation find employers unwilling to hire them for jobs in the primary labor market. Instead, most flounder in dead-end, low-paying jobs in the secondary labor market until about age 25. What if youth apprenticeship programs were established leading to employment in the primary labor market upon high school graduation? We know youth in other industrialized nations are making career decisions by the 10th grade. For example, in 1989, 1.7 million young people—about 70% of the 16- to 19-year-old age group in the Federal Republic of Germany—were apprenticing with about half a million employers to earn formal certificates in 380 different occupations (*Combining School and Work*, 1991). If most youth didn't wind up in the secondary labor market, would their career maturity be hastened?

Should career development professionals embark on a nationwide campaign to create and operate three different kinds of youth apprenticeship programs? These might include (a) a "career awareness apprenticeship" for 11th graders aimed at letting them try out various kinds of work tasks associated with a very wide assortment of occupations; (b) a "career exploring apprenticeship" for 12th graders aimed at allowing youth to try out various forms of work activities within a single occupational cluster; and (c) a "skills acquisition apprenticeship" for community college students aimed at helping youth build skills and expertise in a single occupational subgrouping. There is some indication that such a campaign might

find receptivity among such leaders of the youth apprenticeship movement as Hamilton (1991) and Jobs For The Future (1991).

It seems possible that, in youth apprenticeship programs, many youth will seek to base career decisions more on advice received from their mentors in the workplace than on counseling provided by professional career counselors in educational institutions. This seems to be the assumption Hamilton (1991) made in conceptualizing his current demonstration youth apprenticeship program in Broome County, New York. The potential appeal of a company employee visiting one-on-one with a youth apprentice about what it's like to work in various occupations in the company is unmistakable. What a mentor who has acquired his or her knowledge in the hard crucible of on-the-job experience tells youth is almost sure to be more believable to many than whatever a counselor housed in an educational institution says. Many youth would undoubtedly prefer having someone advise them on what to do over having a counselor attempting to help them determine career decisions for themselves. Should career development professionals object to the concept of mentors visiting with youth in the workplace about career decisions? Should we attempt to provide mentors with some basic counseling skills? Should we simply concentrate on trying to help youth, through our counseling, to sort out what his or her mentor has communicated and relate it to other factors the youth is considering in the career decision-making process? I am not sure how any of these questions should be answered but I *am* sure they are pertinent and important. The concept of company employees serving as mentors to youth engaged in apprenticeship activities is one that career development professionals should not ignore.

It is possible that employers won't change in ways that make youth apprenticeships a viable strategy for use in helping secondary school youth make the schooling-to-employment transition. Considerable evidence exists (CSAW, 1990; Secretary's Commission on Achieving Necessary Skills, 1991; Mishel & Teixeira, 1991) indicating that, to date, American employers have neither (a) restructured jobs so as to shift from a low wages to a high skills occupational society, nor (b) committed employer funds sufficient to support a nationwide youth apprenticeship program. With American employers still devoting less than 1% of gross income to training and Germany devoting somewhere around 3% to training (including youth apprenticeship programs) it is clear that changes needed in the workplace are *at least as great* as are changes needed in the education system. The prime ways in which many U.S. employers currently seem to be competitive is to cut the number of workers, install some form of automation, and urge their remaining employees to work harder. A different set of actions will be required if employers are to do their part to make youth apprenticeship programs work.

It seems that hundreds of thousands of new high school graduates each year seek jobs without pursuing any form of postsecondary education and end up in the secondary labor market. After staying there 8 to 10 years, many *then* elect to secure some kind of postsecondary vocational-tech training that will enable them to enter the

primary labor market. If America continues to move from a low skills to a high wage type of occupational society, many more of these youth should seek some form of postsecondary vocational-technical education very shortly after leaving the secondary school setting.

Today's career development specialists cannot afford to wait for employers to change in ways that make a youth apprenticeship program or some other form of work-based learning possible. Instead they should, it seems to me, seek to acquire the kinds of knowledge and skills that will enable them to help many, many more new high school graduates elect to enroll in some form of postsecondary vocational-tech training prior to seeking entry into the labor market. America should not waste another generation of youth in the secondary labor market.

CONCLUSION

Faced with these conditions, what then becomes the task of the career counselor? Certainly, it will not continue to be one of helping the client attempt to find the "best" occupation for him or her. Instead, it seems to me concentration must be placed in acquiring several kinds of skills including: (a) helping clients learn adaptive skills that will enable them to change with change, (b) helping clients find ways to acquire the kinds of work skills identified in the SCANS Report (1991), and (c) helping clients to develop a personally meaningful set of work values that will enable them to humanize the workplace for themselves—and thus receive the personal satisfaction that comes from true work.

Of these three kinds of skills, it seems to me that the third is, by far, the most important. I am becoming increasingly convinced that America's most basic problem in competing in the international marketplace is that too many of our citizens are asking themselves the wrong "career" question. Far too many of our citizens—young and old, rich and poor, educated and uneducated—seem to be asking the question, "What do I need to know and do in order to *get by*?" In both Germany and Japan, the basic question citizens are raising is, "What do I need to know and do in order to *excel*?" Until many more Americans ask the excel question, it seems doubtful to me that efforts such as work-based learning, changing from a low wages to a high skills occupational society, or educational reform will be sufficient to enable America to compete effectively in the international marketplace.

The work-based learning concept in general and the youth apprenticeship concept in particular cannot be ignored by career development specialists. The purposes of this article have been to (a) clarify the nature of the youth apprenticeship concept, and (b) discuss some of the implications implementation of this concept hold for changing the ways in which career development specialists operate and the ways in which they should be prepared. The time to think about and act on this concept is now. I hope this article will be helpful in motivating career development specialists to move in this direction.

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ERIC Clearinghouse on Adult, Career, and Vocational Education

TRENDS AND ISSUES ALERTS

by Susan Imel 1995

School-to-Work Transition

The idea of helping youth move from school to the workplace is not new; what is new is the conceptualization of school to work as the cornerstone of schooling. Currently, school to work is envisioned as "a systematic, comprehensive, community-wide effort to help all young people (1) prepare for high-skill and high-wage careers, (2) receive top quality academic instruction, and (3) gain the foundation skills to pursue post-secondary education and lifelong learning" (Halpern 1994, p. 4). A number of trends have converged to stimulate the interest in school-to-work transition. These trends, which essentially have to do with economic competitiveness and the changing nature of the workplace, are familiar and can be summed up as follows: the United States is falling behind because it is failing to provide adequate preparation for most new entrants to the workplace, which now demands adaptable and flexible workers with high levels of both academic and technical skills (Brustein and Mahler 1994; National Governors Association 1994).

The passage of the School-to-Work Opportunities Act of 1994 also spurred interest in the school-to-work transition movement. As a part of its efforts to streamline government, however, the 104th Congress is proposing a major consolidation of employment and training legislation—including school to work—in some form of block grant(s) (D. Stoner, personal communication, January 12, 1995). If these proposed changes are effected, the federal role in school-to-work transition will be sharply reduced. In many states, school-to-work transition programs have gained great momentum and will likely continue without strong federal leadership.

A study of 16 programs (Pauly, Kopp, and Haimson 1994) drew the following conclusions about contemporary transition efforts:

- School-to-work programs use a variety of program designs (i.e., career academies, occupational-academic cluster programs, restructured vocational education, tech prep, and youth apprenticeship), customized to suit local circumstances.
- Programs are able to serve a broad cross-section of students and to provide access to college and other postsecondary options.
- Extra resources are needed to initiate and implement school-to-work programs.
- Providing large numbers of high school students with intensive work-based learning will require a major effort both to recruit additional employers and expand the commitment of employers currently participating.
- School-to-work programs that start early—by grades 9 or 10—can reach students before they become disengaged or drop out of school.

A number of issues affiliated with school to work will need to be addressed as states develop their systems. Some critics feel that school to work is just another example of tracking, but one that will screen out poor and disadvantaged youth (Mendel 1994). Another aspect of this issue is the fear that youth who enter school-to-work programs will be closed out of higher education (Pauly, Kopp, and Haimson 1994). The following questions reflect other issues surrounding school to work: Does it force youth to make career choices too early? Does it place too much emphasis on preparing youth for occupations and not enough on becoming well-informed and contributing citizens? Do business and industry have the resources to provide the required work-based learning experiences? (Mendel 1994; NGA 1994). The following resources can be consulted for further information about school-to-work transition programs.

Print Resources

Brustein, M., and Mahler, M. *AVA Guide to the School-to-Work Opportunities Act*. Alexandria, VA: American Vocational Association, 1994.

Following a discussion of the need for the School-to-Work Opportunities Act, this publication presents a detailed discussion and analysis to assist states, educators, employers, and parents in understanding the act and its requirements.

Council of Chief State School Officers and American Youth Policy Forum. *Building a System to Connect School and Employment*. Washington, DC: Authors, 1994. (ED 368 938)

This report reflects concerns about the issues related to building a coherent and effective system of youth development and career preparation for young people in the United States.

Halpern, S. *School to Work: A Larger Vision*. Washington, DC: American Youth Policy Forum, 1994.

Halpern challenges educators to construct a total quality system in which each of the parts supports and advances the welfare of all the other parts.

Hamilton, S. F., and Hamilton, M. A. *Opening Career Paths for Youth: What Can Be Done? Who Can Do It?* Ithaca, NY: Cornell Youth and Work Program, Cornell University; Washington, DC: American Youth Policy Forum; Cambridge, MA: Jobs for the Future, 1994.

Describes an approach for developing a career opportunity system and includes recommendations for components of a system and institutional arrangements and responsibilities.

Jobs for the Future. *Learning that Works: A School-to-Work Briefing Book*. Cambridge, MA: JFF, 1994.

Provides a quick overview of school-to-work in the United States, including design and implementation issues at the program, state, and national levels and policy innovations that can make it easier for school-to-work to become a significant mainstream educational option.

Katzman, S., ed. *The Role of Career Education in School-to-Work Transition. Information Series no. 359*. Columbus: ERIC Clearinghouse on Adult, Career, and Vocational Education, Center on Education and Training for Employment, The Ohio State University, 1995.

Provides an overview of approaches to career education that complement school-to-work transition, including youth appren-

ticeship; career academies; career resource centers; career guidance; and elementary, middle school, and high school career education.

Kazis, R., with P. E. Barton. ***Improving the Transition from School to Work in the United States.*** Cambridge, MA: Jobs for the Future, 1993. (ED 353 454)

Clarifies and describes aspects of the school-to-work transition problems that need "fixing," discusses trends in program and policy innovation at the local, state, and national levels that might respond to the challenges identified, and proposes policies.

McKay, E. G. ***The Forgotten Half: Two-Thirds: An Hispanic Perspective on Apprenticeship, European Style.*** Washington, DC: National Council of La Raza, 1993. (ED 361 431)

Reports on a Hispanic-based consultation on European-style apprenticeships undertaken to add a Hispanic perspective to the current policy debate about apprenticeships as a school-to-work transition option.

Mendel, R. ***The American School-to-Career Movement: A Background Paper for Policymakers and Foundation Officers.*** Washington, DC: American Youth Policy Forum, 1994.

Presents a critical analysis of the school-to-career movement, including a discussion of the issues surrounding school-to-work movement in the United States.

National Governors Association. ***Developing Systems of School-to-Work Transition: A Report on State Progress. Issue Brief.*** Washington, DC: NGA, 1994.

Points out issues, problems, and challenges and includes tables illustrating state school-to-work system elements and school-to-work programs by state.

Ohio Council on Vocational Education. ***Gathering Momentum! Transition from School to Work.*** Westerville: OCVE, 1995.

Describes Ohio's experience in developing a school-to-work system and profiles 23 Ohio programs.

Pauly, E.; Kopp, H.; and Haimson, J. ***Home-Grown Lessons: Innovative Programs Linking Work and High School.*** New York, NY: Manpower Demonstration Research Corporation, 1994. (ED 369 939)

Presents findings and lessons from 16 innovative school-to-work programs in United States' communities on critical concerns of policy makers, educators, and employers.

Pautler, A. J., Jr., ed. ***High School to Employment Transition: Contemporary Issues.*** Ann Arbor, MI: Prakken Publications, 1994.

This discussion of the transition to employment for noncollege-bound youth is organized around four major themes: background, reviews of research, analysis of programs, and suggestions for improving the transition process.

Polite, V. C. "If Only We Knew Then What We Know Now: The School-to-Work and School-to-College Transitions of African American Males in Suburbia." Paper presented at the Annual Meeting of the American Educational Research Association, Atlanta, Georgia, April 1993. (ED 362 601)

Reports on a follow-up study of a cohort of 115 African American males who attended a predominately African American suburban school between 1986 and 1989.

Ray, C. A., and Mickelson, R. A. "Restructuring Students for Restructured Work: The Economy, School Reform, and Non-College-Bound Youths." ***Sociology of Education*** 66, no. 1 (January 1993): 1-20.

Argues that structural changes in the U.S. economy have had a negative impact on student motivation and have shaped the current sense of crisis in U.S. education.

Stern, D.; Finkelstein, N.; Stone, J. R., III; Latting, J; and Dornsife, C. ***Research on School-to-Work Transition Programs in the United States.*** Berkeley, CA: National Center for Research in Vocational Education, 1994. (ED 369 923)

Reviews existing research on school-to-work programs classified in two main categories: school-and-work arrangements that allow students to work and attend school and school-for-work programs that provide instruction with the express purpose of preparing students for work.

U.S. Department of Education. ***School-to-Work: What Does the Research Say about It?*** Washington, DC: Office of Research, Office of Educational Research and Improvement, USDOE, 1994. (ED 371 206)

The series of commissioned papers that make up this volume address several questions related to school-to-work transition, including what do we know about noncollege-bound youth, what relevant governance issues need to be examined, and where do we go to create a system.

Vocational Education Journal 69, no. 3 (March 1994).

Eight articles of this issue focus on the theme of school-to-work transition.

Resource Organizations

American Youth Policy Forum, 1001 Connecticut Avenue, NW, Suite 719, Washington, DC 20036-5541 (202/775-9731)

Cornell Youth and Work Program, College of Human Ecology, Cornell University, Ithaca, NY 14853-4401 (607/255-8394)

Jobs for the Future, One Bowdoin Square, 11th Floor, Boston, MA 02114 (617/742-5995)

National Governors Association, 444 North Capitol Street, Washington, DC 20001-1572 (202/624-5300)

Youth Policy Institute, 1221 Massachusetts Avenue, NW, Suite B, Washington, DC 20005-5333 (202/638-2144)

S2WTP, an electronic discussion forum on school-to-work transition and tech prep. To subscribe send a message to majordomo@cccins.cccneb.edu with the following command in the body of the message: subscribe s2wtp YOUR INTERNET ADDRESS HERE

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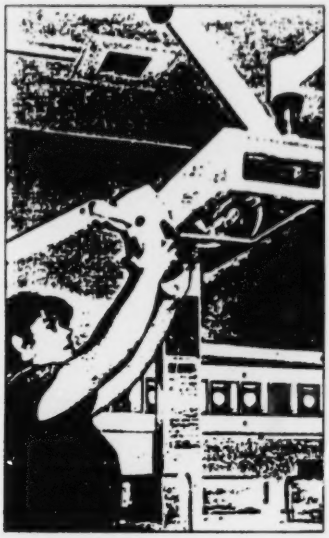
HOME-GROWN LESSONS

There's Much to Learn from Existing School-to-Work Programs

by Edward Pauly



Across the country, vocational-technical educators are working with other teachers, district administrators, employers and community leaders to build a new generation of school-to-work programs. Together they are mapping out plans for their communities' response to the ambitious goals of the new School-to-Work Opportunities Act.

While we can read the federal legislation and the states' implementation plans to get a general idea of how to proceed, many vocational-technical educators would like to hear the advice of colleagues who can speak from the personal experience of launching a school-to-work program.

Over the last two years, 16 innovative school-to-work programs that link high school with work-based learning joined the non-profit Manpower Demonstration Research Corporation in a study of their experiences. The researchers were looking for "home-grown lessons"—the stories of what educators and employers were able to accomplish, the barriers they encountered and the advice that they would give to people who are starting to build school-to-work programs.

The results included some surprises and challenges.

- Instead of using one "pure" model based on an expert prescription, these programs combine different approaches taken from a variety of school-to-work models. For example, a tech prep program in Wayne Township, Indiana, adopted the school-within-a-school format. A career academy in Oakland, California, is adding a youth apprenticeship component. The result is customized programs that keep adding key features from a range of models. This fosters local creativity and ownership.
- These programs serve substantial numbers of low-achieving students and they also help students meet enrollment requirements for college. In Socorro, Texas, the health occupations career academy emphasizes preparation for college while providing co-op experiences tailored for students who plan to attend college as well as those who do not.
- They engage both academic and vocational teachers in innovative professional development to help improve instructional practice. Academic teachers integrate work-related learning into their courses, and vocational teachers integrate new academic content into their assignments. Teachers often share planning periods.
- A major challenge will be to recruit large numbers of employers to provide more than just a small number of intensive work-based learning slots for students.
- The programs are in 12 states. All made unique adaptations to their local communities. They reflect many of the latest school-to-work innovations: career academies, youth apprenticeships, tech prep, occupational/academic clusters, expanded community co-op experiences and the use of vocational education as a theme for schoolwide reform.

These 16 programs point to opportunities and challenges that others are likely to face. They also demonstrate that educators and employers can change long-established practices to help students learn about the world of work in new ways. But the programs are not statistically representative of school-to-work programs now operating in the United

BEST COPY AVAILABLE

Carl Sockler, Camp Hill, PA

HANDS ON LEARNING. Socorro High School health occupations student Cynthia Peinado adjusts equipment during a clinical rotation (opp. page). At left, Santaisha Price (standing in center) learns the chemical makeup of a perm solution from teacher Jack Sipe (left) at Dauphin County Technical School in Pennsylvania.

States. Nor is there sufficient information to reliably assess their effectiveness.

Beyond the classroom

These programs are built on the same fundamentals as the best vocational education programs but with some subtle differences in emphasis. One difference is the professional development activities for teachers. The tech prep coordinator at Ben Davis High School in Wayne Township, Indiana, took mixed groups of academic and vocational teachers on daylong visits to local high-tech manufacturers, where they talked with line workers and supervisors about the technical problems they confront and solve every day and the ways today's high-tech jobs build on the lessons students learn in school.

Teachers in the "Roosevelt Renaissance 2000" teacher-student cluster program in Portland, Oregon, made similar visits to employers. These visits are an eye-opening chance for academic teachers to see the benefits of their vocational colleagues' instructional approaches. They're also a stimulating source of ideas for applied academic lessons.

Teachers in other programs, including the Health and Bioscience Academy at Oakland Technical High School in California and the occupational-academic cluster program at Crater High School in Central Point, Oregon, built informal "teacher learning communities" to collaborate on new ways to improve their instructional practice and develop new learning activities for students. They fleshed out program goals into concrete lessons plans and continually updated each other on what worked and what didn't.

These informal, shared efforts keep teachers deeply involved in the process of adjusting their practice. An important distinction—teachers were paid for some of the additional time required for their activities. Both Oakland and Crater used public or private grant money to pay teachers for the required overtime.

Another difference between many vocational programs and the school-to-work programs we studied was the extra support the latter provided for students, engaging them in school through a personalized, family-like experience that goes beyond strong curricula, training and work-based learning activities. In several programs, clusters of students stay together for several classes each day, which gives them a stable peer group with a shared interest in the program's occupational theme. Teachers work together to make sure that students in the clusters don't fall between the cracks, which sometimes means calling home when students are absent.

Teachers in more than half the programs found that their students benefited when they added a school-within-a-school (the academy approach) or teacher-student team (used in occupational/academic cluster or pathway approches) to their program model.

Mentoring by adult workers in local industries can keep students interested in a school-to-work program, as instructors of a printing youth apprenticeship in West Bend, Wisconsin, have found.

Some programs improve students' preparation for college and other post-secondary education by increasing the number of math and science courses they take. The college option also is important to parents, who told us that when they heard students in the school-to-work program were meeting entry requirements for college, their negative preconceptions disappeared. The King-Drew Medical Magnet High School in Los Angeles, California, stresses college readiness while providing students with 10 work-based learning rotations in a local hospital or other health center.

Including low achievers

Our study sought to gather information on whether it is feasible for school-to-work programs to serve a wide range of high school students, including low achievers and other at-risk students. We sought to study programs that try to serve diverse kinds of students.

The programs provide clear evidence that a broad cross-section of students can be served in school-to-work programs—including low-achieving students—without sacrificing rigor or lowering standards. Students who previously were low achievers are participating successfully in all of the programs, as are students from a wide range of ethnic and racial backgrounds.

Program directors have found innovative ways of meeting the needs of the heterogeneous groups of students they serve:

- Starting the program in grade 9 or 10 can reach students before they become disengaged from school. Four programs that had begun in grade 11 or 12 switched to grade 9 or 10 to reach students earlier in high school.
- Many programs chose not to use specified grades or test scores as entry requirements because these can exclude students who could benefit from the program. They recruit students by visiting classes that contain low-achieving and high-achieving students. For example, the Fort Collins, Colorado, co-op program serves all students who take the required career development course.

EMPLOYER INPUT. The active involvement of business partners has been crucial to the success of school-to-work programs. In Tulsa's Craftsmanship 2000 apprenticeship, metalworking student Lee Hurst works a mill under the supervision of mentor Monte Pratt.

Innovative Programs

These are the 16 schools and programs studied for the MDRC report:

Career Academies
- Academy of Finance, Lake Clifton-Easton High School, Baltimore Maryland
- King-Drew Medical Magnet High School, Los Angeles, California
- Health and Bioscience Academy, Oakland Technical High School, Oakland, California
- Socorro High School for the Health Professions, Socorro High School, El Paso, Texas

Occupational-Academic Cluster Programs
- Crater High School, Central Point, Oregon
- Dauphin County Technical School, Harrisburg, Pennsylvania
- Roosevelt Renaissance 2000, Roosevelt High School, Portland, Oregon

Restructured Vocational Education Programs
- Rindge School of Technical Arts, Cambridge, Massachusetts
- Professional and Career Experience, Poudre R-1 School District, Fort Collins, Colorado

Tech Prep Programs
- Pickens County School District, Easley, South Carolina
- Ben Davis High School, Wayne Township, Indianapolis

Youth Apprenticeship Programs
- Fox Cities Printing Youth Apprenticeship, Appleton, Wisconsin
- Metropolitan Vocational Center, Little Rock, Arkansas
- Pickens County School District, Easley, South Carolina
- Craftsmanship 2000, Tulsa, Oklahoma
- West Bend Printing Youth Apprenticeship, West Bend, Wisconsin

- New instructional methods appear to benefit all students, including students who have not succeeded in school in the past. At Rindge School of Technical Arts, a Cambridge, Massachusetts, integrated vocational-academic program, teachers use project-based assignments, hands-on tasks, team activities, multiple methods of presenting course material and other active learning approaches. They created new courses called CityWorks (exposing students to a wide range of occupations using community-based projects), CityLife (combining English and social studies) and CitySystems (combining math and science) to explore occupations and relevant skills.

Recruiting employers

Our study suggests that a major effort to expand employers' support will be required if large numbers of students are to participate in intensive work-based learning experiences. In the 16 programs, few participating employers provided more than three work-based learning slots for students. This reflects that development of school-to-work programs is at an early stage. In addition, employers said it is costly for them to supervise and train students.

Recruiting employers is a demanding and time-consuming task for program staff. Local programs must allocate substantial time to recruiting employers and helping them develop and maintain high-quality workplace activities for students. Craftsmanship 2000 in Tulsa, Oklahoma, uses full-time, non-teaching staff to recruit employers and train their staff to work with students.

The quality of work-based activities for students varies considerably. This underscores the need to help employers create and maintain good programs. Technical assistance for employers is particularly valuable for those who don't have much experience working with teenage employees.

Intermediary organizations such as chambers of commerce, business and professional groups and trade associations have made crucial contributions to many of the programs. In Menasha, Wisconsin, the Fox Valley Education for Employment Council brings together school and business leaders using its strong connection to the Chamber of Commerce. In Pickens County, South Carolina, the Partnership for Academic and Career Education was created by Tri-County Technical College to play this crucial intermediary role.

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Home Grown Lessons...

Continued from page 18

High-quality work-based learning opportunities are expensive for employers to provide and are likely to be in scarce supply for the foreseeable future. MDRC's study found that in some programs, students started a workplace learning activity with little knowledge about occupations in the industry. A substantial percentage of these students soon left, causing frustration among the employers and wasting valuable learning opportunities.

For students to make informed decisions about the kinds of work-based learning experiences that are appropriate for them—and to avoid making a premature occupational choice—they need information on the opportunities and requirements of jobs in many different industries. Some programs provide highly developed career exposure activities and counseling. This information can reduce dropping out of expensive technical training programs such as those provided by youth apprenticeships and community college partners.

What it takes

Program directors and teachers told us repeatedly about the importance of high-quality program implementation. Some frequently cited lessons include:

- A school-level program coordinator with release time is needed to monitor and energize each school's implementation process.
- If school-to-work courses are offered as electives, many students will take only a few of these courses, limiting the benefits they receive.
- Schoolwide support is critical. Guidance counselors, non-participating teachers and administrators can make or break the program's reputation, so program staff should work hard to gain their support.
- Scheduling is a common problem that often requires intervention from the principal.

Years of fine-tuning are needed in all programs to make mid-course corrections and respond to problems. In the Little Rock, Arkansas, heating and ventilation youth apprenticeship program, useful ideas for improvement came from the industry's apprenticeship coordinator and local employers. In the occupational/academic cluster program at Dauphin County Technical School in Harrisburg, Pennsylvania, regular small-group meetings of academic and vocational teachers resulted in refinements and increased the focus on work-related topics in academic courses.

The 16 school-to-work programs that provided this article's lessons show that it is possible to achieve those goals. It remains to be seen whether schools and employers will be able to expand their school-to-work programs to serve large numbers of students with high quality programs nationwide.

"Home-Grown Lessons: Innovative Programs Linking Work and High School" is the final report on MDRC's School-to-Work Transition Project Trusts, Jobs for the Future helped conduct the study, which was authored by Edward Pauly, Hilary Kopp and Joshua Haimson. A book on the project will be published by Jossey-Bass early in 1995. For further information, contact MDRC at 3 Park Avenue, New York, NY 10016; (212) 532-3200.

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Student Assessment and Youth Apprenticeship

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Youth Apprenticeship (YA) programs have received much recent attention as a strategy for preparing students for the world of work. Long popular in Europe, YA programs are a means for ensuring that entry-level workers possess the training and skills required on the job. Many Clinton administration officials, including Secretary of Labor Robert B. Reich, are looking at apprenticeship training as a way to provide non-college-bound students with specific industry-desirable and approved skills (Olson, 1993). Although YA is no longer considered the centerpiece of the school-to-work transition strategy, the Clinton administration, as well as many educators and industry groups, continue to view YA programs as an integral part of that strategy, along with vocational education and tech-prep programs.

Although several definitions of what constitutes a Youth Apprenticeship program exist, Rosenbaum (1992) suggests a set of "core principles" for school-to-work programs in general and YA in particular:

- Programs must identify clear standards from their inception.
- Learning methods must be linked to the workplace but be practical for schools to teach.
- Both applied and academic training are required elements.
- Students who master the standards of the program must be rewarded with good jobs.
- Achievement must be assessed and certified.

Rosenbaum's core principles are consistent with those of groups and individuals that support a YA approach to training, including Jobs for the Future (1991), U.S. General Accounting Office (1992), and Bailey (1993).

The emergence in popularity of school-to-work transition programs increases the need to determine their success in meeting varied goals. One way to gauge the effectiveness of these programs is to assess student performance. The purpose of this report is to describe a comprehensive strategy for the assessment of student achievement and mastery in YA programs. Assessment can be used for many purposes, including participant program entry and diagnostic decisions. Though the strategies discussed here are widely applicable, the specific focus of the report is on mastery and certification (end-of-program) decisions. To be effective, assessment should not be an add-on activity, but an integral part of a coherent program. Consequently, we turn to a brief description of the context in which YA and assessment are found.

RECENT TRENDS IN ASSESSMENT AND JOB-TRAINING PROGRAMS

Any understanding of the state of the art of assessment of school-to-work transition programs must include an awareness of changes in the direction and philosophy in both effective schooling and job preparation during the 1980s. Serious questions about the efficacy of education in the United States were raised in a series of critical reports, including *A Nation at Risk* (National Commission on Excellence in Education, 1983) and various national and international studies of American students' test results, such as the

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National Assessment of Educational Progress (NAEP) and the International Assessment of Educational Progress (IAEP).

At the same time, the United States' declining manufacturing base, shrinking competitive economic edge, and trade imbalance with other countries (particularly those in the Pacific Rim), led to similar unease about the preparation of American workers for the high-performance workplace of the future. Reports such as *America's Choice: High Skills or Low Wages* (Commission on the Skills of the American Workforce, 1990) and *What Work Requires of School: A SCANS Report for America 2000* (Secretary's Commission on Achieving Necessary Skills, 1991) espoused the same concerns as the general education debate. American students were viewed as lacking basic academic skills, knowledge about work, and the ability to function in a changing work environment (which requires and rewards higher-order thinking and problem-solving abilities and group decision-making skills).

The connection between effective schooling and job preparation has recently become a concern for the education mainstream. Perhaps the most telling sign is the recent attention of career-preparation issues, including YA, in nonvocationally oriented educational journals. Such journals as *Educational Researcher* (April 1993) and *Phi Delta Kappan* (January 1993; see Wirth, 1993) took the unusual step of offering major articles on YA and workplace transition.

The search for reasons for the decline in quality of American education and work preparation took many directions. One common path led directly to the role of assessment in educational accountability. Critics such as Fredericksen and Collins (1989), Madaus (1991), Shepard (1991), and Wiggins (1989) blame a significant portion of the decline on the proliferation of the use of multiple-choice testing instruments. They argue that such tests are antithetical to a "thinking" (problem-solving based) curriculum because the multiple-choice approach stresses one correct answer and rewards the narrowing of curriculum and teaching techniques by concentrating on rote forms of learning. Instead, multiple-choice critics propose a new performance-based ("authentic") approach to assessment. Unlike multiple-choice testing, performance-based assessments require students to create solutions, rather than merely recognize or memorize them, thus encouraging students to take a more active learning role. Performance-based assessment has since become the standard for supporting education reform in such programs as the New Standards Project (Resnick, 1992) and states such as Kentucky (Kentucky Education Reform Act, 1990) and California (SB 662, 1992), among many others.

One important result of this confluence of concerns about school effectiveness, workplace preparation, and assessment is a renewed emphasis on the importance of academic and workplace preparation for *all* students. This is especially evident in the Carl D. Perkins Vocational and Applied Technology Education Act of 1990 (Perkins II), where two of the major requirements include strong academic preparation and integration with occupational skills training, as well as formal assessment procedures for judging program and student success.

In this report, we discuss issues related to the assessment of YA programs in particular and school-to-work transition efforts in general. We begin by describing the role of standards in such assessment systems. Next, we describe a coherent assessment system that is applicable to a variety of program types, limits many of the technical and administrative problems associated with performance-based assessment systems, and is supportive of important reform-related initiatives such as academic and workplace integration. We then present examples of workplace-based assessment programs from a variety of sources—federal, state, and private. Finally, we discuss future implications and concerns for the assessment of YA and other career-preparation programs.

ESSENTIAL FEATURES FOR CAREER-PREPARATION PROGRAM ASSESSMENT

Standards as a Basis for Assessment Development

Standards convey the knowledge and skills students are expected to master. If assessment are to be meaningful and valid, standards must be made explicit. More and more programs at the national, state, and local level are linking formal systems of standards and assessments to ensure program consistency and quality. Varying definitions of standards are currently in use across industries and segments of the education community. We briefly describe common usage of some key terms.

Content Standards. Content standards refer to what we expect students (and workers) to know and be able to perform. Such standards should consist of two parts—cognitive and behavioral. The first part indicates the type of knowledge that is expected, and the second specifies application of that knowledge. This two-part structure is crucial for many reasons. First, it emphasizes that mastery includes both comprehension and application. Next, it helps ensure that

the academic foundation for most skills is not ignored in career training. Third, it lends support for the notion that effective instruction must include hands-on practice. Finally, and most important for the purposes of this report, it provides direction for appropriate means of assessment. That is, properly developed, behavioral components lend themselves directly to specific means of performance-based assessment tasks.

Performance Standards. Performance standards indicate levels of achievement, or mastery (e.g., Advanced, Proficient, and Basic). Performance standards can be set either for an individual content standard or across groups of content standards. Either approach has distinct advantages and disadvantages. Specifically, setting performance standards for an individual content standard is a familiar concept to most educators and workers. It is most meaningful for jobs that require a set of discrete tasks with little interrelationship. The disadvantage is that few occupations fit this model.

Most jobs require many interrelated skills. Employers typically must choose among several candidates with different levels of mastery across the variety of expected skills. Thus, performance levels that describe mastery across a variety of skills are most consistent with the typical hiring situation. In addition, even when mastery of individual standards is the focus, an overall decision across the different combinations of standards must still be made.

Finally, skills are most often compensatory. Strong performance on some make up for weak performance on others. Use of a compensatory model that focuses on performance across standards allows students the opportunity to highlight their strengths, as opposed to their shortcomings. Consequently, we recommend that mastery decisions be made across standards, unless some standards are so important that failure to master them will immediately disqualify potential job candidates. Obviously, a combination of these two approaches may work well in many settings.

Skills Standards. Skills standards refer to the knowledge and skills that are essential for success in the workplace. Such standards can take the form of either content or performance standards (or both). There are several different levels of skills standards, ranging from generic to job specific: generic workplace readiness, industry core, occupational cluster, and occupational (or job) specific.

- **Generic workplace readiness** standards. A number of recent projects have attempted to identify the skills, competencies, and personal qualities that workers across *all* industries will need for success in the 21st century workplace. Among others, such efforts include those by the U.S. Department of Labor's Secretary's Commission on Achieving Necessary Skills (SCANS) and the Council of Chief State School Officers' (CCSSO) Workplace Readiness Consortium (1994). They address topics including personal attributes, interpersonal skills, thinking and problem-solving, communication, academic foundations, and use of information and technology. These standards underscore the message being conveyed by employers that they need workers with strong foundation skills, who are prepared to learn and adapt to specifics on the job.
- **Industry core** standards. These are standards that apply to all, or nearly all, occupations in a particular industry. Thus, core standards for the hospitality industry are distinct from core standards for the automotive industry. This first layer of industry-specific standards is critical for career-preparation programs. Such standards should help ensure that students who transition to work or further training have a solid foundation in their industry of interest.
- **Occupational cluster** standards. The next layer of industry-specific standards specify the knowledge and skills that are common to a *related* set of occupations. For example, occupations in the health care industry may be grouped into the following clusters according to the primary focus of services: therapeutic, diagnostic, support, and informational. Standards could be developed that are common to each of those occupational clusters. The advantage of having cluster-level standards is, again, to provide a broader base of skills for students and workers than would be afforded by simply concentrating on occupational-specific standards. This is consistent with the idea of a multiskilled worker who has the requisite skills to adapt to changes within an occupation and who is better prepared for making vertical and horizonal changes in his or her own career path.
- **Occupational or job-specific** standards. Such standards address the job expectations of a *specific* occupation. This is the level at which many existing career-preparation programs focus. The advantage of focusing at this level is that specific skills can be targeted. The disadvantage of this focus is that such preparation may insufficiently prepare students for likely changes in a specific occupation or for career moves within an industry. At the extreme, an exclusive focus on job-specific standards may "pigeonhole" students in specific jobs that may or may not exist in the future.

Skills standards are the focus of many national and state initiatives (Wills, 1993). For example, 22 grants have recently been awarded by the U.S. Departments of Education and Labor to develop skills standards for specific industries. The Appendix lists the specific industries or industry organizations that have been awarded such grants. Each of these projects involves intense collaboration among industry, education, and labor to develop and validate national standards.

The national skills standards developed through these 22 efforts will have direct relevance for YA and other career-preparation programs. At the very least, standards for a particular program should be consistent with the national standards. Where appropriate, the national standards could be used as a starting point for development of specific program standards. In turn, the program standards will form the basis for development of an assessment system.

System for Assessing YA and Career-Preparation Programs

Various procedures are available to evaluate YA and other career-preparation programs. Many have been used traditionally; others take advantage of new assessment technologies—in particular, portfolios and related activities. In this section, we describe a system for assessment that involves an accumulation of different forms of evidence. No one method of assessment can do the job alone. Rather, the approach we advocate is referred to in measurement circles as "triangulation" (Mathison, 1988). Triangulation involves the accumulation of multiple forms of evidence to reach a decision more reliable, valid, and generalizable than would be made based on any individual piece of evidence. Many of the benefits of a YA program to the individual student are subtle or difficult to measure. The triangulation approach allows for assessment of such skills through multiple and complementary means.

Based on our review of the research and our own assessment experience, the following features are essential for any YA assessment system:

- Clear and concise standards, reflecting a specific program model (and program goals), must be determined at program inception.
- The tasks and components must assess three types of content standards—core academic, generic workplace, and industry specific (core, occupational cluster, or occupational specific).
- Many types of assessment must be employed, including both *on-demand* and *cumulative*. On-demand tasks require students to respond on the spot, in a discrete period of time. Examples of on-demand tasks include written scenarios, case studies, writing prompts, and multiple choice tests. Cumulative tasks are activities students complete over a substantial period of time. Portfolios, projects, and on-the-job practicums are examples of cumulative assessment tasks.

  We advocate a system including cumulative and on-demand tasks for several reasons. First, most jobs involve a combination of activities, some which can be completed over time, others with immediate timelines. Approaches to assessment must address both types of skills if they are to be valid and acceptable to the business and education communities. Next, education and training reform require significant changes in the way students and future workers are taught. Cumulative tasks help support a problem-solving-based, "thinking" curriculum. Third, inclusion of on-demand components helps ensure that specific standards are assessed; this may not occur in a cumulative-only system where more individual choice is typically permitted. Fourth, the combination of on-demand and cumulative tasks takes into account the burden on teachers and other program administrators to complete all components in a reasonable amount of time. Finally, combining cumulative and on-demand tasks into an integrated assessment system is consistent with the triangulation approach.
- Assessment tasks must be primarily *performance-based*. We propose moving away from a strict definition of "authentic" as advocated by some authors (e.g., Wiggins, 1989) that tasks must mirror those found in the workplace. Rather, they must allow demonstration of skills that transfer directly to those used in the work setting. As a manufacturer reported to us recently, "We don't expect students to build airplanes in high school; however, we expect what they learn in their career-preparation programs to enable them to successfully work on building airplanes when they join our company." There is still, however, a role for some traditional paper-and-pencil testing in this proposed system. Such items can be efficient to administer, increase overall reliability, and, if thoughtfully developed, measure important higher-order types of skills.
- Assessment tasks should be *jointly developed by educators and industry representatives*. This collaboration helps ensure both fidelity to the requirements of the workplace and feasibility in educational settings. Industry representatives must include line-level workers and supervi-

sors. Ideally, educators should also have some recent industry-specific experience.

- Assessment tasks should permit decisions to be made concerning the achievement of individuals or efficacy of training (or both), depending on the goals of the program. At the individual student level, decisions could range from a certificate of completion on through a formal certificate of mastery. Program-level findings should pinpoint needed modifications to curriculum (standards) or instruction (training). The technical requirements for decisions affecting the individual far outweigh those required at the program (or group) level. Programs might opt for an approach that begins with group-level decisions, eventually leading to individual-level decisions, when assessments are shown to be technically and legally defensible. (See Mehrens & Popham, 1992, for an introduction of how to evaluate the legal defensibility of high-stakes assessment components.)

  The technical adequacy of performance-based assessment components has received much recent attention. Some authors have gone so far as to indicate that the validity of such tasks are "self-evident," requiring no further analysis. We strongly disagree with such simplistic approaches for establishing validity. Evidence of face validity has never been viewed as sufficient. Although some advocates of performance-based approaches might view their assessment tasks as inherently valid, development of such tasks must still be validated for *the specific intended purposes*.

  Establishing reliability or consistency is even more problematic for performance-based measures. Most studies report rater reliability (i.e., agreement between raters on a particular rating) as evidence of attaining an adequate level of consistency. More important, however, is evidence of generalizability—do the limited number of tasks performed by examinees generalize to the variety of standards covered in the program and required on the job? To ensure adequate generalizability requires a sufficient number of tasks consistent with the triangulation approach.

- Assessment tasks must result in artifacts that can be scored at a later time and accumulated in a working folder or portfolio. Often, evidence of both *products* and the *process* used to arrive at the product are desirable. Evidence can include the actual product or photographs, rating sheets, early drafts, and work plans.

- To the extent possible, the system used to assess the YA program should be related to other district, state, or national initiatives. The standards assessed should at least be consistent with those of similar projects in education or industry. At the other extreme, the YA assessment components will be part of a district or statewide accountability system that may include academic basic skills test and nontesting indicators of school or program success. The benefits of this more comprehensive approach include efficiency of effort and better use of limited resources.

- Educators and others involved in assessments must address *equity* concerns throughout the process. Administrators of assessments must review and analyze differences in the performance of males versus females or among racial and ethnic groups to ensure that such differences are not the result of biased assessment methods. The needs of special populations must also be considered; specific accommodations are often dictated by law or accepted practice. This requirement is just as important for performance-based tasks as it has been for more traditional methods.

EXEMPLARY MODELS OF CAREER-PREPARATION ASSESSMENT

In this section, we describe some specific approaches to the assessment of career-related skills currently being implemented or under development. Specifically, we examine in some detail the California Career-Technical Assessment Project, ACT WorkKeys, and the Kentucky Instructional Results Information System. We conclude with a brief listing of other efforts underway at the state or national level, and we provide names of contact persons for further information.

Career-Technical Assessment Project (C-TAP)

Far West Laboratory (FWL) is conducting the Career-Technical Assessment Project (C-TAP) for the California Department of Education. The purpose of this project is to develop, field test, and implement a performance-based student assessment and certification system for students enrolled in career-technical education programs offered in California high schools, adult education programs, and regional occupational centers/programs. All assessment components measure career-technical (vocational program), career-

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performance (generic workplace readiness), and foundation academic standards, in an integrated format.

C-TAP is part of an overall secondary reform effort expected to radically change the way high schools throughout California are structured. Key features of this reform can be found in the document *Second to None: A Vision of the New California High School* (California State Department of Education, 1992) and a newly implemented state assessment law (SB 662, 1991).

A key feature of the *Second to None* restructured high school is an integration of curriculum for *all* students, including vocational and college bound students. Students are being prepared to graduate from high school as "self-motivated, competent, and lifelong learners" (SB 662) equipped with the knowledge and skills to make decisions about career options.

SB 662 calls for students to graduate from high school with "an individual record of accomplishment." The key feature of this record will be the student's results from the revised assessment program. This will consist of:

- Grade 10 high school performance tests in English language arts, mathematics, history/social science, and science;
- End-of-course exams; and
- Career-technical certification assessment (C-TAP).

Collectively, these assessment tools measure important skills and knowledge in a coordinated fashion. Taken together, they present a comprehensive picture of a high school graduate that can be presented to a postsecondary institution or a prospective employer.

Two general categories of assessment are employed for all certifications: cumulative and on-demand. The cumulative assessments include the supervised practical experience, an assessment project, and a structured portfolio. The administered assessments include a project presentation and a written scenario. All C-TAP assessment tasks are jointly developed and validated by committees of educators and industry representatives. The types of assessments are described in the next sections.

Cumulative Assessments

1. **Supervised Practical Experience**. All students who are enrolled in a program requiring a supervised practical experience (SPE) will have their work supervisor complete an SPE evaluation form. The SPE evaluation form allows the supervisor to rate important career skills embodied in the following career performance standards: personal skills, interpersonal skills, thinking and problem-solving skills, communication skills, occupational safety, and technology literacy. In addition, students will be rated on skills specific to their career-preparation program required "on the job."
2. **Assessment Project**. All students are required to complete and present an approved assessment project during the course of their program. Projects will involve either the planning and development of a tangible end product or a written description and analysis of a significant process-oriented experience based on a "real world" application from the student's field. Project ideas will be developed jointly by the student and teacher, according to specific guidelines provided by the state for each occupational cluster. A committee of educators and business and industry representatives will oversee the development of students' work.
3. **C-TAP Portfolio**. All students will assemble a structured portfolio during the course of their program. The portfolio will serve as a vehicle for organizing and presenting a collection of the student's work for purposes of assessment, as well as for presentation to prospective employers or advanced training institutions. The portfolio will include (a) an introduction, (b) a career development package, (c) work samples, (d) a research write-up, and (e) a completed SPE evaluation form (if applicable).

On-Demand Assessments

1. **Project Presentation**: All students will make an oral presentation describing the details of their assessment project to a review panel and respond to questions from the panel. The panel may consist of teachers, parents, students, and industry representatives. The student's presentation will be evaluated according to specified criteria, including oral-presentation skills and ability to reflect on the project experience.

2. **Written Scenario**. All students will be presented with a written scenario representing a complex and realistic problem from their career-technical area. Students will have 45 minutes to respond in writing to the written scenario prompt; they will be judged on their ability to apply content knowledge and problem-solving skills to address the problem presented in the scenario.

For more information about C-TAP, contact Dr. Stanley Rabinowitz, Senior Research Associate, Far West Laboratory, 415-241-2711.

Work Keys

Work Keys is a national system for teaching and assessing employability skills that is being developed by the American College Testing Program (ACT). Designed to ease transitions from training to work and to improve an individual's workplace skill development, this assessment tool is intended for use in many settings, including high school, postsecondary institutions, and employer-sponsored training programs, as well as federally-sponsored training programs, such as those under the Job Training Partnership Act (JTPA).

Central to the Work Keys System is the Work Keys Skills Matrix, which defines and categorizes employability skills and establishes criterion-referenced definitions of skill levels to be measured. The matrix is continuously updated and refined in consultation with advisory groups of employers, educators, and representatives from government and labor. Continuous refinement of the matrix is necessary to ensure that the skills and definitions are valid and applicable.

Work Keys Components. Four components make up the Work Keys system, all of which are dependent on the matrix: a job profiling process, assessment instruments and protocols, formats for recording and reporting assessment results, and instructional materials and resources on employability skills.

The job-profiling component represents a systematic process that enables employers to develop accurate profiles of the skill levels required for effective performance in individual jobs. These job profiles can be adjusted as workplace requirements change. A variety of Work Keys assessment instruments and protocols are either in the planning stages or have already been developed. Assessments are currently available for the following areas: Reading for Information, Teamwork, Applied Mathematics, Listening, and Writing. These assessments employ several formats, including multiple choice and open-ended response. Work Keys curriculum and instructional materials will emphasize an applied, hands-on approach to teaching skills that learners will need for particular jobs. ACT will work closely with nationally recognized developers of curriculum and instructional materials to ensure that the Work Keys materials will accommodate differing learning styles of school-age and adult learners.

How Work Keys Can Be Used. On entering the Work Keys System, learners will be assessed to determine their level of competency for each of the Work Keys skills. If performance is judged by the employer as acceptable, Work Keys can be used to inform hiring and promotion activities. If performance is judged as unacceptable, an appropriate training path will be identified for the learner.

For more information about Work Keys, contact Dr. L. Kate Sottong, ACT Center for Education and Work, 319-339-3027.

Kentucky Instructional Results Information System (KIRIS)

KIRIS represents one of the few large-scale, high-stakes, performance-based assessment programs already in place. It is primarily a school-based (program) accountability model. However, feedback on test performance is provided to individual students for diagnostic purposes, along with other more comprehensive assessment data.

All students in Kentucky in grades 4, 8, and 12 participate in formal KIRIS assessments in the areas of reading, writing, mathematics, science, social science, arts and humanities, practical living, and vocational studies. Several assessment components are included for each subject, including open-ended questions, writing and mathematics portfolios, and performance events. A key feature of the open-ended questions is that they measure the mandated "Learner Outcomes" (i.e., expected student outcomes) in an integrated fashion. For example, vocational studies skills are assessed along with those in mathematics or science, etc. This not only creates a more efficient assessment model but sends the message that instruction should be integrated, consisting of both knowledge and applications.

KIRIS Learner Outcomes for Vocational Studies are applicable to all students, not just those enrolled in vocational programs. Equally important, they are to be addressed systemwide (K–12). The specific outcomes, where appropriate, include knowledge of:

- Career Paths;
- Employability Attributes; and
- Postsecondary Opportunities Search (jobs, school, military).

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In addition to assessment results, Kentucky schools are held accountable for their performance on a series of noncognitive (nontesting) indicators. These indicators include, at the secondary level, dropout rates and the percentage of graduates who make a "successful transition to adult life," which includes continuing education or employment.

Inclusion of the noncognitive indicators demonstrates that not all that is important to a program can be measured by assessment procedures alone. The "transition" indicator conveys the message that program responsibility does not end when the student leaves. Successful placement at the next level, be it employment or continued training, should be a major indicator of the efficacy of YA or other career-preparation programs, both at the individual and school level.

For more information on KIRIS, contact Dr. Edward Reidy, Deputy Commissioner, Kentucky Department of Education, 502-564-4394.

Other Exemplary Programs

Many states and organizations are involved in the assessment of career-preparation programs. Table 1 lists some of the most prominent. The examples represent school, state, and national efforts, along with contact persons.

SUMMARY AND FUTURE IMPLICATIONS

As more school-to-work transition programs, including those classified as YA, are developed and implemented, evidence of their effectiveness is being sought. Programs of this nature have a clearer "bottom line" than other education initiatives: Are graduates more likely to obtain employment of their choice and perform successfully in the workplace? Are graduates more likely to seek out and succeed in continued training?

To judge program success, we must develop coherent performance-based systems of assessment that encompass clear standards. The standards and the resultant assessment system must focus attention on students, showing both their knowledge and ability to apply this knowledge in a variety of settings. Instruction and assessment must reinforce our goal for students to possess strong academic foundations, workplace knowledge, and technical expertise.

A successful YA assessment system must deal with the technical concerns associated with performance-based measures. In particular, it must not sacrifice important issues such as reliability and generalizability for apparent gains in validity. We have recommended using a system of varied components, both on-demand and cumulative, to meet the technical de-

Table 1
Examples of Career-Preparation Assessment Programs

Title	Organization	Contact
Applied Learning Initiative	New Standards Project	Davis Jenkins 412-624-8319
Employability Skills Portfolio	Michigan DOE	Catherine Smith 517-373-8393
Project C[3]	Fort Worth	Gary Standridge 817-871-2400
SCANS Assessment Project	ACT	Robert Korte 319-337-1085
Workplace Readiness Consortium	CCSSO	Stanley Rabinowitz 415-241-2711

mands. However, balance must be preserved. Too many components will overburden teachers and administrators. The key issue for instruction is that assessment must become an integral part of the day-to-day curriculum. Such time-consuming tasks as portfolios or projects work best when they become part of regular classroom activities and training, not add-ons to the program.

As in all assessment systems, equity concerns must be addressed. Programs must ensure that all students have an "opportunity to learn" important program skills. These so-called "delivery standards" (e.g., criteria for assessing whether training programs are giving students the opportunity to learn material reflected in program standards) are expected to become a part of most accountability systems in the near future.

Finally, the future strength of the U.S. economy is dependent on the skill levels of American workers. Future workplace expectations call for independently motivated, technically sound, self-directed learners, capable of working alone and in groups. The responsibility of training such workers falls beyond YA programs or vocational teachers alone. Academic teachers and the community as a whole, particularly representatives of business and industry, must play a significant part in the education and training of current and future workers. To encourage buy-in and increase available resources, the entire community should participate in the training program, beginning with the formulation of YA program goals and standards on through the development and evaluation of resultant assessment tasks. Only if all constituencies in the community are involved in all aspects of the YA program will we be certain that the needs of the individual student, business and industry, and ultimately society as a whole, are being met. Assessment can play an important role in meeting these needs, provided an inclusive process is followed in the planning, development, and implementation of assessment-related issues and components.

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Apprenticeship and the Future of the Work Force

by Michael E. Wonacott

1992

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Changing demographics, changing technology, and increasing international competition have combined to make the preparation of workers for the workplace a critical issue today. One training strategy in particular is often cited as holding great promise for improving workplace preparation: apprenticeship. Apprenticeship has been very effective in preparing skilled workers, in the United States and abroad. However, before vocational-technical educators can capitalize on the benefits of apprenticeship as a training strategy, they must know what apprenticeship is—and what it is not—and how its characteristics can be imparted to other educational programs.

What Apprenticeship Is

The U.S. Department of Labor's (DOL) Federal Committee on Apprenticeship (1992) defines apprenticeship as a training strategy with eight essential components:

- Apprenticeship is sponsored by employers and others who can actually hire and train individuals in the workplace, and it combines hands-on training on the job with related theoretical instruction.
- Workplace and industry needs dictate key details of apprenticeship programs—training content, length of training, and actual employment settings.
- Apprenticeship has a specific legal status and is regulated by federal and state laws and regulations.
- Apprenticeship leads to formal, official credentials—a Certificate of Completion and journeyperson status.
- Apprenticeship generally requires a significant investment of time and money on the part of employers or other sponsors.
- Apprenticeship provides wages to apprentices during training according to predefined wage scales.
- Apprentices learn by working directly under master workers in their occupations.
- Apprenticeship involves both written agreements and implicit expectations. Written agreements specify the roles and responsibilities of each party; implicit expectations include the right of program sponsors to employ the apprentice, recouping their sizable investment in training, and the right of apprentices to obtain such employment.

What Apprenticeship Is Not

It is equally important to understand what apprenticeship is *not*. In some European countries, apprenticeship is a widely used form of vocational training for young people (Brodsky 1989). In Austria, Germany, France, and the United Kingdom, apprenticeship is a common path for transition from school to work. In the United States, on the other hand, apprenticeship is not aimed at youth who are completing school; rather, it functions far more often to provide upgrading and retraining for adults who are already employed (Glover 1986).

Furthermore, apprenticeship is not a standardized, uniform institution in the United States ("Apprenticeship" 1991-92). The DOL's Bureau of Apprenticeship and Training oversees apprenticeship functions in collaboration with agencies in 27 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Apprenticeship programs may be sponsored by employers, employer associations, or jointly by employers and unions. Programs registered with state or federal agencies offer apprenticeships in approximately 830 occupations.

In addition, apprenticeship is—in some respects—not widely used as a training strategy (General Accounting Office 1992). Two-thirds of all U.S. apprentices are in 20 of the 830 apprenticeable occupations; of those 20 occupations, all but three (corrections officer, fire fighter, and police officer) are in the construction and metal trades. In addition, minorities are underrepresented in apprenticeship programs (ibid.).

Moreover, apprenticeship is not closely and productively linked with vocational-technical education in the United States (Grossman and Drier 1988). Some apprenticeship leaders feel that vocational-technical training provides inadequate preparation for the workplace. Apprenticeship leaders often have little detailed knowledge of vocational-technical education, and educators often lack such detailed knowledge about apprenticeship. In addition, leaders in both vocational-technical education and apprenticeship can be influenced by issues of control and ownership.

Finally, apprenticeship is not just a strategy that involves training outside the classroom or training content strictly determined by occupational needs (Federal Committee on Apprenticeship 1992). Apprenticeship is distinguished from such training strategies—including cooperative education, tech prep, and summer or part-time work experiences—by the unique combination of its eight essential components. Although such other training strategies may have great value in their own right, only apprenticeship produces fully trained, competent journeypersons with the skills needed to perform effectively in the workplace.

The Benefits of Apprenticeship

Apprenticeship programs, like other forms of work-based learning, can show significant benefits in preparing workers for the workplace (Employment and Training Administration 1989). Learning in the workplace under the supervision of a master worker allows full participation by students in the process of learning and working. Through observing and commenting, students can build technical skills, experience the sharing of tasks, and see how technical tasks relate specifically to theoretical knowledge and interpretation.

Students are more likely to be able to understand the big picture. Students can see for themselves how the technical task can be affected by the context in which it is performed and how their own performance must take that context into account. Such broadening of technical performance makes workers more skilled, more flexible, and more able to contribute to workplace productivity. In addition, students are prepared to acquire new skills later in life.

Other benefits accrue directly to students in apprenticeship and other forms of work-based learning. Students can receive training and acquire new skills while working and earning an income at the same time. For adults who are already employed, apprenticeship may provide the only opportunity to advance into higher-paying, higher-skilled jobs.

Work-based learning can provide numerous advantages for noncollege-bound youth. These advantages arise from the closer linkages between school and work that are typically part of work-based learning. Such closer linkages are believed to lead to substantial improvements in the career options of noncollege youth, to increase their on-the-job productivity, and to

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provide significant, meaningful incentives for students to do well in school—and even to stay in school (Filipczak 1992).

Apprenticeships also offer considerable benefits to employers and other training sponsors, schools, and the community (Florida Council on Vocational Education 1992). Benefits to employers and training sponsors include assistance from trained educators in job analysis and training design, the active participation of the school's testing and guidance professionals in program recruitment, shortened training times and costs, and the opportunity to prepare students to meet the individual sponsors' particular requirements. Schools benefit by being able to provide educational opportunities outside their usual physical, financial, and staff resources. Instructors, administrators, and counselors have increased and improved contact with local employers and employment conditions.

Youth apprenticeships can be a visible demonstration of the role played by the community as a whole in education. Youth apprenticeships can help increase the number of students who make a successful transition from school to work, reducing the number of economically unproductive members of the community. Local job stability is enhanced when local students receive relevant and effective training for local jobs. In addition, healthy youth apprenticeship programs can help draw new industries and new employers into the community.

Broadening the Scope of Apprenticeship

How can the benefits of apprenticeship be maximized? How can more workers and more students enjoy those benefits? More people can take advantage of the benefits if the scope of apprenticeship in the United States is broadened (Bureau of Apprenticeship and Training 1988). Apprenticeships could be established in a wide range of occupations and industries not currently considered apprenticeable. Candidate occupations and industries tend to be high-skill and high-tech areas, with consideration given to labor market supply and demand. In addition, the idea of providing continuing training for skill updating through apprenticeship-type programs has been proposed.

Many feel that the role played in apprenticeship by the federal government and by education should be strengthened to increase program quality. Technical assistance, program promotion, and tax incentives are among the specific suggestions for an increased role for government; leadership and attention on the part of government are also urged. An increased role for education centers on the establishment and improvement of linkages between education and the workplace. Through such linkages, industry could better communicate its concerns and needs to education, educational planning could better reflect the realities of the workplace, and the needs of minorities could be better served by apprenticeship programs.

Borrowing the Components of Apprenticeship

Vocational-technical educators can capitalize on the benefits of apprenticeship by borrowing those components of apprenticeship that are associated with increased success in learning and earning. Like all work-based learning, apprenticeship derives much of its effectiveness from its close and strict association with the workplace. Workplace needs determine training content, scope, and duration, ensuring relevance and timeliness. Apprentices receive recognizable, universally accepted credentials upon completion, so that they can benefit from their training wherever they go.

In many respects, these characteristics and benefits apply—at least in theory—to many vocational-technical training programs. Good programs are always carefully grounded in the world of work; they start from the needs of the workplace to determine the content and nature of training and to provide students with the specific knowledge and skills needed to enter the workplace. Such effective and consistent linkages between training and work may be the best way for educators to capitalize on the characteristics of apprenticeship that lead to success in learning and earning.

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CENTER ON EDUCATION AND TRAINING FOR EMPLOYMENT
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TITLE: ***Adolescents' Perceptions of Their Work: School Supervised and Non-School Supervised***
SERIES: **Reprint Series**
YEAR: 1990
AUTHOR: Stone, James, III; Hopkins, Charles; Stern, David; McMillion, Martin
AVAILABILITY: NCRVE Materials Distribution Service, Horrabin Hall 46, Western Illinois University, Macomb, IL 61455, (800) 637-7652
ABSTRACT: This article examines differences between school-supervised work-experience programs and socially or academically desirable outcomes. It also explores the attitudes of students towards such school-supervised programs.
FORMAT: Report, 53 pp., $2.25

TITLE: ***Analysis of Linkages in Selected School-to-Work and Career Advancement Transition Programs***
YEAR: 1991
DEVELOPER: CSR, Incorporated; Meridian Corporation
AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400
ABSTRACT: This study focused on the formal and informal linkages between industry and education that were supportive of structured-based learning at three transition points: entry, dislocation, and upgrade. The research involved visits to 10 School-to-Work sites, 1 dislocated worker, and 4 career advancement programs. Qualitative data was collected from each area of study, and an analysis was drawn from the collected data. The analysis showed similarities and differences in three major areas: linkages within the programs, program operations, and factors affecting successful program operations.
FORMAT: Report, 222 pp., $34.65 (order no. ED340858)

TITLE: **"Apprenticeships from High School to High Skills"**
YEAR: 1992
JOURNAL: *Training*
Vol. 29, No. 4 (April), pp. 23–29
AUTHOR: Filipczak, Bob
AVAILABILITY: UMI Article Clearinghouse, 300 N Zeeb Road, Ann Arbor, MI 48106, (800) 521-0600
ABSTRACT: Youth apprenticeship initiatives offer relevant, work-based learning to noncollege-bound youth, preparing them for high-skill jobs and building generic employability skills. (SK)

TITLE: ***Articulation Work-Based Learning: Technical Assistance Manual***
YEAR: 1994
AVAILABILITY: Louisiana Department of Education, P.O. Box 94064, Baton Rouge, LA 70804-9064, (504) 342-3524
ABSTRACT: The state of Louisiana has developed a composite of instructional materials, intended to provide educators in high schools and technical institutes with opportunities for professional growth in the following areas: Instructional Leadership, Counseling and Career Paths, Articulation, and Work-Based Learning. Practitioners were involved in producing this material; most of the contents come from presentations given by the practitioners.
FORMAT: Manual, 75 pp., free

TITLE: ***Building a Youth Apprenticeship System: The Oklahoma Edition***
YEAR: 1993
AVAILABILITY: Oklahoma Department of Vocational and Technical Education, Judy Draper, 1500 W Seventh, Stillwater, OK 74074, (405) 743-5437
ABSTRACT: The future success of the workforce is a well-developed mind, a passion to learn, and the ability to put knowledge to work. One way to meet these objectives is to provide youth apprenticeships for young people in America. The European system of apprenticeship training provides a model for how this may be successfully implemented. The European students involved in the program look at the apprenticeship opportunity positively, because it provides experience and training in the workforce. A description of the European apprenticeship programs is provided, along with recommendations for how the apprenticeship program may be implemented with the United States educational system.
FORMAT: Guide, 110 pp., free

TITLE: ***Challenge: To Identify the Incentives That Would Encourage Employers to Participate in Work-Based Learning Programs in Order to Prepare Young Workers to Secure and Succeed in Full-Time Jobs***
SERIES: **EQW Issues Number 6**
YEAR: 1994
AUTHOR: Morgan, Stephen
AVAILABILITY: National Center on the Educational Quality of the Workforce, University of Pennsylvania, 4200 Pine Street, 5A, Philadelphia, PA 19104-4090, (800) 437-9799
ABSTRACT: Two studies tested the feasibility of a national School-to-Work transition venture. One study involved focus groups of employers in eight cities identifying

ABSTRACT: incentives encouraging employers to take part in youth work-based learning programs. The second study was a telephone survey of employers in seven cities who had participated in local apprenticeship or cooperative education programs. They were asked about their reasons for participation and satisfaction with the quality of students. The focus group results indicated large firms' chief concern was to recycle their current workforce; they showed little interest in School-to-Work transition programs. Small business owners were hiring displaced workers. Employers were critical of youth and high schools and had turned to college students and graduates for new employees. When asked about their willingness to participate in a work-based learning program, the employers said screening was the pivotal concern. Employers in the second study praised the quality and contributions of young workers. The author suggested the following actions be taken to encourage employers to participate in School-to-Work transition programs: define the problem—fewer good jobs; focus national attention on investing in work; be more flexible; make the youth labor market itself more supportive of young people's ambitions; have schools focus on work readiness; extend the concept of national service to include a strong work component; and conduct a national School-to-Work transition program with effective employer organizations. (YLB)

FORMAT: Literature Review, 9 pp., free

TITLE: **"Changing the Culture: A Lifetime of Learning"**

YEAR: 1993

JOURNAL: *Adult Learning*
Vol. 4, No. 6 (July/August), pp. 19–20

AUTHOR: Riley, Richard W.

AVAILABILITY: UMI Article Clearinghouse, 300 N Zeeb Road, Ann Arbor, MI 48106, (800) 521-0600

ABSTRACT: The Secretary of Education discusses the Goals 2000: Educate America Act as it relates to adult and work-based learning and family literacy. He challenges adult educators to recruit the hardest to reach and the hardest to teach—those who have fallen through the cracks of the traditional education system.

TITLE: ***Combining School and Work: Options in High Schools and Two-Year Colleges***

YEAR: 1991

AVAILABILITY: United States Department of Education, Vocational and Adult Education, 400 Maryland Avenue SW, Washington, DC 20202-7100, (202) 205-9996

ABSTRACT: This report describes two sets of programs that respond to the challenge of preparing young people for a more learning-intensive workplace. One set of options, including cooperative education, apprenticeship, and school-based enterprise, makes deliberate use of work as part of the learning experience. The second set of programs, including vocational academics and Tech Prep programs, is reconstructing the high school curriculum to unite vocational with academic disciplines.

FORMAT: Report, 52 pp., free

TITLE: ***Converting Working into Learning: An Appraisal of an LEA Foundation Year Training Scheme***

YEAR: 1985

AUTHOR: Shackelton, Jenny

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: A pilot project was undertaken in South Bedfordshire, England, to develop a work-based job training program for out-of-school youth. The program was based on a partnership between local educators and employers and featured an integrated curriculum that combined work-based learning with off-the-job training. Besides integrating occupational and basic skills, the program provided for instruction in such areas as communication, numeracy, manipulative, and English-as-a-second-language (ESL) skills. Tutors developed training curricula during the training process rather than before it. The training model called for counselors to play a central role, functioning as (1) liaisons between supervisors, trainers, tutors, and trainees and (2) teachers and providers of guidance and support. Although a few employers regarded the program as an opportunity to obtain cheap labor, the majority of those employers contacted welcomed the idea of youth training and went to considerable lengths to provide work experiences that included variety. At the end of the program's first year, most of the staff agreed that while some differences existed between the approaches of supervisors and tutors, some aims supported by the Youth Training Scheme (YTS) approach were already being practiced by supervisors. (Appendixes to this report include data tabulated for the induction questionnaire, the tutor/counselor questionnaire, the form used to assess progress and attainment, and a sample work-based training unit.) (MN)

FORMAT: Report, 86 pp., $14.12 (order no. ED265392)

TITLE: ***Coordinator's Handbook: Kentucky Secondary Cooperative Vocational Education*** *[new title for 1995]*
YEAR: 1992
AVAILABILITY: Kentucky Department of Education, Division of Secondary Vocational Education, 21st Floor, Capital Plaza Tower, 500 Metro Street, Frankfort, KY 40601, (502) 564-3775
ABSTRACT: The basic philosophy behind cooperative education allows for in-school instruction alternating with on-the-job work experience in a business or industrial establishment. The purpose of cooperative education programs is the development of occupational competence, reinforced by real-life job experience. This handbook should assist teachers, coop coordinators, supervisors, and administrators in providing a basis for making decisions and standardizing cooperative education activities within his or her own educational system.
FORMAT: Handbook, 117 pp., free

TITLE: **"Designing Effective Learning Environments: Cognitive Apprenticeship Models"**
YEAR: 1991
JOURNAL: *IEE* Brief 1 (September)
AUTHOR: Berryman, S. E.
AVAILABILITY: UMI Article Clearinghouse, 300 N Zeeb Road, Ann Arbor, MI 48106, (800) 521-0600
ABSTRACT: Using cognitive science as the knowledge base for the discussion, this paper reviews why many school learning situations are ineffective and introduces cognitive apprenticeship models that suggest what effective learning situations might look like. Five wrong assumptions about learning are examined: (1) people transfer learning from one situation to another, (2) learners are passive receivers of wisdom, (3) learning is the strengthening of bonds between stimuli and correct responses, (4) learners are blank slates, and (5) skills and knowledge should be acquired independent of their contexts of use. Cognitive scientists use a wide array of knowledge and experience to design effective learning environments, including the work of 19th- and early 20th-century educators, analyses of apprenticeship learning and of the spectacular learning of young children, and an extensive body of cognitive science research. The Collins, Brown, and Newman cognitive apprenticeship model is recommended; its four building blocks—content, methods, sequence, and sociology—together define an effective learning situation. Current programs for integrating academic and vocational education and apprenticeships in light of the cognitive apprenticeship model are described. The paper concludes that the cognitive apprenticeship model could be a good vehicle for learning and should be implemented in more situations. (13 references) (KC)

TITLE: ***Designing the Framework: A Discussion Document about Restructuring National Qualifications***
YEAR: 1991
AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400
ABSTRACT: This document is intended to generate discussion about the plans of the New Zealand Qualifications Authority for developing a National Qualifications Framework. The document begins with an explanation of the qualifications framework in Maori and in English. A guide to reading the document points out its organization and the inclusion of diagrams and Maori proverbs and their English translation. Section 1 outlines proposals and options for post-high school qualifications, including descriptions of vocational competence in the European and United Kingdom models and plans for certification. Section 2 outlines proposals and options for secondary education qualifications, discussing the school certificate, senior secondary education qualifications, and scholarships. Section 3 tells how all the threads are drawn together in the National Qualifications Framework covering the following: the role of the Qualifications Authority or of the agencies acting in lieu of the Authority; how experiential, community-based and work-based learning relates to the Framework; and the goals of the Framework. Section 4 addresses units of learning, such as how students will choose appropriate units and the advantages and disadvantages of the unit learning approach. Section 5 covers student assessment and reporting and argues in favor of standards-based assessment. Section 6 explains how prior learning will be recognized. Section 7 describes course development and necessary quality assurance processes. There are 28 references and 4 appendices containing (1) an example of a Scottish higher national unit specification, (2) a Scottish national certificate module descriptor, (3) examples of standards-based assessment used in plumbing and gas fitting, and (4) achievement-based assessment of one skill in school biology. (CML)
FORMAT: Position Paper, 95 pp., $15.40 (order no. ED354327)

TITLE: ***Education for Employment in the New Economy: A Report of the Economic Partners Team of the Comparative Learning Teams Project***

YEAR: 1994

AUTHOR: Schaeffer, Esther F.; and Others

DEVELOPER: Center for Learning and Competitiveness, Maryland University; National Alliance of Business

AVAILABILITY: Center for Learning and Competitiveness, School of Public Affairs, University of Maryland, College Park, MD 20742, (301) 405-6344

ABSTRACT: U.S. business, labor, and public policy representatives visited Denmark, Sweden, and Switzerland to study the roles of their counterparts in School-to-Work systems. They identified these common strengths: the view of education as an economic investment tool by all partners; strong partnerships of business, labor, and government; voluntary national, industry-driven systems of standards, curricular frameworks, assessments, and credentials; School-to-Work transition as part of a broader integrated education and training system; decentralized systems and flexibility; broad and specific skill development; common knowledge, skills, and abilities in the workplace as the basis of common elements or course modules in curricula; consolidation of jobs and industries for defining course curricula; combination of classroom and work-based learning; and compulsory, high-quality primary school with technical training available by age 16. Common philosophies also resulted in common concerns: integration of academic/classroom and work component, staff development, communication between educators and industry, tension between broad and specific skill development, inflexibilities in changing national standards and curricular frameworks, and training without jobs. Each country had distinctive differences in the role of labor, mix of classroom and work-based components, importance of work-based pay, employer commitments to hire, use of contracts between employers and youth, and employer incentives. The next steps for the U.S. government, employers, and labor were identified. (YLB)

FORMAT: Research Report, 47 pp., $5

TITLE: ***An Employer's Guide to Education in the Workplace: Facts, Programs & Resources***

YEAR: n.d.

AVAILABILITY: Florida Department of Education, Division of Applied Technology and Adult Education, Bureau of Career Development and Educational Improvement, Florida Education Center, Tallahassee, FL 32399-0400, (800) 342-9271

ABSTRACT: This guide defines workforce education and illustrates the need for basic skills education in the United States and Florida. It explains the benefits to employers, employees, and the community-at-large of providing work-related basic skills classes at the worksite. It provides additional resources and a directory of education contacts by county.

FORMAT: Guide, 16 pp., free

TITLE: ***Empowerment through Experiential Learning: Explorations of Good Practice***

YEAR: 1992

AUTHOR: Mulligan, John; Griffin, Colin, eds.

AVAILABILITY: Kogan Page, c/o Taylor and Francis, 1900 Frost Road, Suite 101, Bristol, PA 19007, (215) 785-5800

ABSTRACT: This volume brings together papers from the 1991 Conference on Experiential Learning held at Surrey University (England); its 25 chapters are divided into 5 sections. An introduction provides a brief overview of each chapter. Section 1 is concerned with theoretical frameworks and philosophical and critical reflection: "Absorbing Experiential Learning" (Griffin), "Learner Experience: A Rich Resource for Learning" (Saddington), "Experiential Learning: The Confucian Model" (Mak), "Exploration of Levels of Awareness and Change Processes in Group Encounter" (Barber), "Politics of Facilitation: Balancing Facilitator Authority and Learner Autonomy" (Heron), and "Silent Learning: Experience as a Way of Knowledge" (Ranjan). Section 2 deals with the accreditation of prior experiential learning (referred to as APEL): "Linking Personal Learning and Public Recognition" (Evans), "APEL for Access to Science and Technology" (Paczuska), "Women's Informal Learning in a Neighbourhood Setting" (Webb, Redhead), "Constraints upon Portfolio Development in the Accreditation of Prior Learning" (Balckman, Brown), and "Making Experience Count: Facilitating the APEL Process" (Hull). Section 3 discusses issues related to the institutional assimilation of experiential learning: "Empowerment through Experiential Learning" (Tate), "Cooperative Inquiry into Organizational Culture: Wrekin District Council Experience" (Marshall), and "Police Probationer Training: Resistance to Writing as an Aid to Reflection in Experiential Learning" (Bartrop). Section 4 focuses on experiential learning processes from a variety of different perspectives: "Adventure-Based Experiential Learning" (Richards), "In the Midst of Experience: Developing a Model to Aid Learners and Facilitators" (Boud, Walker), "Reflection

and Empowerment in the Professional Development of Adult Educators" (Knights), "Internal Processors in Experiential Learning" (Mulligan), "Creative Capability and Experiential Learning" (Henry), and "Suggestopedia: Way of Learning for the 21st Century" (Hooper-Hansen). Section 5 presents examples of teaching and facilitation methods for experience-based learning: "Learning Contracts: How They Can Be Used in Work-Based Learning" (Marshall, Mill), "Learning Experiences for Professional Reality and Responsibility" (Anderson, McMillan), "Experiential Learning Approach to Developing Clinical Reasoning Skills" (Higgs), "Task and Reflection in Learning to Learn" (Anderson), and "Encouraging Experiential Learning: Lessons from the 16–18 Curriculum Enrichment Programme" (Taylor). A subject index is provided. (YLB)

FORMAT: Collection, 258 pp., $69

TITLE: ***Getting Started with Youth Apprenticeship: A "How To" Workbook***

YEAR: 1993

AUTHOR: Craig, Annette; Stokes, Frances; Walter, Diana

AVAILABILITY: Partnership for Academic and Career Education, P.O. Box 587, Highway 76, Pendleton, SC 29670, (803) 646-8361, ext. 2457

ABSTRACT: This manual was designed for persons interested in developing Youth Apprenticeship programs in established Tech Prep programs with a starting point for discussion and planning. The discussion uses approaches that have evolved from a functioning program—the Pickens County Youth Apprenticeship initiative in Easley, South Carolina.

FORMAT: Guide/Manual, 63 pp., $20

TITLE: ***A Guide to Work Based Learning Terms, Definitions and Commentary on Terms for Work Based Learning in Vocational Education and Training***

YEAR: 1989

DEVELOPER: Further Education Staff College

AVAILABILITY: CBIS Federal, Inc., 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742

ABSTRACT: This guide contains definitions, commentaries, and sources of origin of terms relating to work-based learning in vocational education and training (VET). Closely related terms are clustered around three themes that are used as section headings: (1) aims of VET; (2) methods and approaches in new VET; and (3) accreditation—approaches to assessment and certification. Terms discussed elsewhere in the document are underlined, and their page numbers listed in the alphabetical index at the end of the document. Appendixes include a list of 139 references, a complete listing of the 30 readings recommended at the end of entries, abbreviations, and an alphabetical index of terms.

FORMAT: Guide, 128 pp., $21.18

TITLE: ***High Performance Work and Learning Systems: Crafting a Worker-Centered Approach. Proceedings of a Conference (Washington, DC, September 1991)***

YEAR: 1992

AUTHOR: Marschall, Daniel, ed.

DEVELOPER: American Federation of Labor and Congress of Industrial Organizations; Human Resources Development Institute

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: A consensus that unions must develop coherent and comprehensive policies on new work systems and continuous learning in order to guide local activities was the central theme of this conference on the interrelated issues of the high performance work organization. These proceedings include the following presentations: "Labor's Stake in High Performance Work Organization" (Kistler, McMillan); "Key Elements of High Performance Work and Learning Systems" (Marshall); "Remarks on AFL-CIO Policy Priorities and Introduction of Luncheon Speaker" (Oswald); "One International Union's Approach to Skill Training and Continuous Learning" (Sweeney); "Advancing Work-Based Learning: U.S. Department of Labor Perspective" (Van Erden); "Making the Connection: New Technology, Work Organization and Skills" (Appelbaum); "Unions: The Key to Worker Empowerment" (Roberts); "A Participatory Perspective on Technology and Work Redesign" (Haddad); "Preparing for the Future through Apprenticeship" (Robertson); "The Role of Labor Leadership in Workplace and Education Reform" (Cole); "Cultivating a Suitable Environment for Workplace Restructuring" (Sarmiento); and "Where Do We Go from Here? An Agenda for Organized Labor" (Murry). An epilogue summarizes the small group discussion. Four appendices are included: (1) information about the presenters, (2) selected bibliography (32 references), (3) conference participants, and (4) the eight key elements of high performance work and learning systems. (NLA)

FORMAT: Conference Proceedings, 90 pp., $15.40 (order no. ED349434)

SERIES: **High Schools That Work Site Development Guides**

TITLE:
- ***Where Do You Begin?***
- ***Creating an Effective School Site Team Structure for Achieving High Schools That Work Goals***
- ***Needs Assessment Can Help Achieve the Vision of a High School That Works for Career-Bound Students***
- ***Staff Development***
- ***Guidance***

YEAR: n.d.

AVAILABILITY: SREB (Southern Regional Education Board), 592 Tenth Street, NW, Atlanta, GA 30318-5790, (404) 875-9211

ABSTRACT: This set of five guides is designed to be a framework for action at the school site and in the classroom. The stated purposes are (1) to introduce the faculty to a vision of the things that can be done to raise the achievement of college-bound students; (2) to create an effective team structure; (3) to assess where a school is in relation to the goals and key practices of the *High Schools That Work* program; (4) to develop an ongoing staff development plan; and (5) to develop an educational and career guidance program.

FORMAT: Guide, various pagination, $7 for set

TITLE: **"Home-Grown Lessons: There's Much to Learn from Existing School-to-Work Programs"**

YEAR: 1994

JOURNAL: *Vocational Education Journal* Vol: 69, No. 7 (October), pp. 16–18, 69

AUTHOR: Pauly, Edward

AVAILABILITY: UMI Article Clearinghouse, 300 N Zeeb Road, Ann Arbor, MI 48106, (800) 521-0600

ABSTRACT: This article looks at 16 innovative School-to-Work programs that link high school with work-based learning and what educators and employers accomplished, the barriers they encountered, and advice they would give to those starting School-to-Work programs. (JOW)

TITLE: ***How Do I Get from Here to There? A Guide to Work-Based Learning***

YEAR: 1992

DEVELOPER: Michigan Occupational Information Coordinating Committee

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: This document describes work-based learning, a process that connects school and work and makes it possible for students to get a head start on a career by combining classroom study and practical experiences in a "job-like" setting or with an actual employer. It contains a personal guide to some of the work-based learning programs that are currently available in Michigan schools. It demonstrates the value of work-based learning for students who are career-bound rather than college-bound. The first section introduces the concept of work-based learning. Career plans and the need for sound basic skills regardless of the career path one is considering are discussed. A Michigan Employability Skills Profile is included to help readers understand the need for academic, personal management, and teamwork skills. Others sections focus specifically on career and technical education; cooperative education; apprenticeships; and Tech Prep, a program that combines vocational and academic studies to produce more "work ready" workers. The final section of the document lists a variety of other opportunities and programs, including counseling, assessment, mentorships, internships, externships, and job shadowing. (NB)

FORMAT: Guide, 21 pp., $3.85 (order no. ED361621)

TITLE: ***How Much Does a Youth Apprenticeship Program Cost, and Who Will Pay for It? Lessons from Some Long-Standing School-to-Work Programs and Youth Apprenticeship Programs Under Development***

YEAR: 1991

AUTHOR: Roditi, Hannah Finan

PUBLISHER: Jobs for the Future

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: With growing interest around the country in expanding the integration of school and work, the pressing questions many are asking are: what will it cost? and who will pay? This paper extrapolates from some existing school to career programs to estimate answers to those questions. Its goal is to serve as a tool for program builders at the local level to think through the implications of design on cost and on the incentives for key funding partners. The purpose is also to contribute to a more informed ongoing dialogue of what a youth apprenticeship program costs and how it should be structured.

FORMAT: Report, 47 pp., $7.70 (order no. ED337635)

TITLE: ***How School to Work Works for Business: A Report on Business Involvement in School to Work***

YEAR: 1994

AVAILABILITY: National Alliance for Business, Distribution, P.O. Box 501, Minneapolis, MN 20701, (800) 787-7788

ABSTRACT: Currently, there exists a mismatch between the skills of the labor force and the skill demands of the workplace. Partnerships between business and schools are recommended to solve this problem. Young people must enter the workforce with higher skills than they needed in the past and must also plan to upgrade these skills to keep up with the changes in the decades to come. Businesses have met this challenge by developing a new model for training entry-level workers called American youth apprenticeship. This report is meant to introduce youth apprenticeship programs at both the state and local levels.

FORMAT: Report, 28 pp., $7.95

TITLE: ***Implementing the School-to-Work System: A Guide to Work-Based Learning Programs Part I***

YEAR: 1994

AVAILABILITY: Michigan Center for Career and Technical Education, Michigan State University, 230 Erickson Hall, East Lansing, MI 48824, (800) 292-1606

ABSTRACT: This guide focuses on specific School-to-Work programs that aim for the development of occupational learning. It describes the nature of work-based learning and gives an overview of its key design features of contracted instruction, cooperative education, school-to-apprenticeship, and apprenticeship programs accompanied by related resources and a glossary of School-to-Work terms.

FORMAT: Guide, 50 pp., $5

TITLE: ***Implementing the School-to-Work System: A Guide to Work-Based Learning Programs Part II***

YEAR: 1994

AVAILABILITY: Michigan Center for Career and Technical Education, Michigan State University, 230 Erickson Hall, East Lansing, MI 48824, (800) 292-1606

ABSTRACT: This guide focuses on specific School-to-Work programs that aim for the development of career awareness and exposure. The guide describes the nature of work-based learning and gives an overview of career exploration programs, service learning, job shadowing, school-based enterprises, career internships, and career academies accompanied by related resources and a glossary of terms.

FORMAT: Guide, 75 pp., $8

TITLE: ***Implementing the School-to-Work System: A Guide to Work-Based Legal Issues***

YEAR: 1994

AVAILABILITY: Michigan Center for Career and Technical Education, Michigan State University, 230 Erickson Hall, East Lansing, MI 48824, (800) 292-1606

ABSTRACT: This guide includes information on the legal employment of minors, liability, unemployment coverage, workers' compensation, safety, and state and federal rules and regulations. Summaries of laws, rules, regulations, and a concise employer guide are included.

FORMAT: Guide, 50 pp., $5

TITLE: ***Kentucky Registered Pre-Apprenticeship Program: A School to Work Transition Initiative for Developing a Skilled Workforce for the Commonwealth***

YEAR: 1994

AVAILABILITY: Kentucky Department of Education, Division of Secondary Vocational Education, Office of Special Instructional Services, 500 Metro Street, Frankfort, KY 40601, (502) 564-3775

ABSTRACT: The world of work needs workers with the ability to think and be flexible in an environment built on teamwork. The state of Kentucky believes that to achieve this goal in the workforce we must develop the academic and occupational skills of our youth. Apprenticeship is one proven method for developing these skills. Specifically, the Kentucky Registered Pre-Apprenticeship Program outlines how skill development may be achieved by providing students with a link between learning in the classroom and skill training in the workplace. The goal is to facilitate the transition from high school into occupations through the cooperative efforts of business and industry, labor, and education.

FORMAT: Report, 65 pp., free

TITLE: ***Learning the Ropes: The Social Construction of Work-Based Learning***

YEAR: 1992

AUTHOR: Hart-Landsberg, Sylvia; Braunger, Jane; Reder, Stephen; Cross, Mary M.

AVAILABILITY: National Center for Research in Vocational Education, Materials Distribution Service, Horrabin Hall 46, Western Illinois University, Macomb, IL 61455, (800) 637-7652

ABSTRACT: A study examined how experienced and newly hired hospital unit secretaries at a large private hospital "learned the ropes" of their jobs. Two researchers interviewed and observed a total of 15 unit secretaries to gather information on the secretaries' occupational and educational backgrounds,

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assigned tasks, and ways of learning their assigned tasks. The experienced secretaries' reflection-in-action on their activity system was compared to that of a novice secretary. For the secretaries, learning the job turned out to be a major part of the job itself, and their learning and doing proved largely concurrent. A large part of the secretaries' "learning the ropes" entailed learning their respective activity systems through a process of reflection-in-action that was largely self-initiated and that involved ongoing interpretation and negotiation of their activity systems. The secretaries perceived themselves as constantly engaged in learning but seldom being taught. The following implications for training designers were drawn: recognize the essential role of assisted learning, create conditions to foster assisted learning, design and implement innovations that structure learning in the workplace, and design and implement innovations that structure occupational learning in schools. (A hospital job description and interview guide are appended, and 68 references are included.) (MN)

FORMAT: Report, 94 pp., $6 (order no. MDS-413)

TITLE: ***Learning Through Work: Designing and Implementing Quality Worksite Learning for High School Students***

YEAR: 1994

AUTHOR: Goldberg, Susan; Kazis, Richard; O'Flanagan, Mary Kathleen

AVAILABILITY: Manpower Demonstration Research Corporation, Three Park Avenue, New York, NY 10016, (212) 532-3200

ABSTRACT: This technical assistance guide provides how-to-do-it advice that local education and business leaders need as they work together to define and establish the new work-based learning activities that are crucial elements of School-to-Work programs. It offers concrete suggestions on recruiting employers, designing high-quality program components, and responding to implementation challenges. It also includes samples of actual student work tasks, learning plans, student-employer contracts, and assessment forms to give practitioners ideas that they can apply in their own communities.

FORMAT: Guide, 94 pp., $12

TITLE: ***Learning to Compete***

YEAR: 1993

DEVELOPER: National Advisory Commission on Work-Based Learning

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: The National Advisory Commission on Work-Based Learning identified practical steps that the Labor Department could take to help increase the skill levels of the U.S. workforce and to expand work-based training. The findings gained from a series of roundtables and further studies were synthesized into a set of recommendations in five major areas: policy leadership, leadership by example, skill standards, benchmarks for human resource development systems, and incentives for change. The commission suggested that the Labor Department take several steps, including the following: (1) adopt a proposed policy statement to be issued by the White House in support of Total Quality and Managing Diversity as two critical components of productivity and competitiveness; (2) work closely with progressive and innovative voices in the business and labor communities to build support for Total Quality and Managing Diversity; (3) increase emphasis on human resource development and workplace reform; (4) conduct an independent audit of the Labor Department to identify the main barriers to implementing Total Quality and Managing Diversity; (5) work to ensure that proposed skill standards legislation supports rather than preempts existing voluntary demonstration efforts; and (6) help states integrate technology diffusion training, diversity, and labor-management relations. (MN)

FORMAT: Position Paper, 49 pp., $7.70 (order no. ED357237)

TITLE: ***The Meaning of Apprenticeship: When and How to Use the Term—A Policy Recommendation***

YEAR: 1992

DEVELOPER: Federal Committee on Apprenticeship, U.S. Department of Labor, Employment and Training Administration, Office of Work-Based Learning, Bureau of Apprenticeship and Training

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400 or FAX (703) 440-1408

ABSTRACT: This policy paper defines apprenticeship in terms of eight essential components, explains what apprenticeship is not, and recommends how the term should be used. As defined by the eight components, apprenticeship is a strategy that (1) combines supervised, structured, on-the-job training with related instruction and that is sponsored by employers or labor/management groups; (2) prepares people for skilled employment with content defined by the

industry—completion may take up to five years; (3) has requirements that are legally defined; (4) leads to a legal certification of completion and journeyworker status; (5) requires a sizable commitment on the part of the employer or labor/management group; (6) pays wages to participants; (7) involves learning by working with masters of the craft; and (8) involves a written agreement and social obligation between the program sponsor and the apprentice. According to this document, apprenticeship is not cooperative education, vocational education, "Tech Prep," 2 + 2, summer or part-time work experiences, or other training programs. The paper recommends that the term "apprenticeship" should be reserved only for those programs that adhere to the eight essential components.

FORMAT: Report, 5 pp., $3.85 (order no. ED342924)

TITLE: ***National Advisory Commission on Work-Based Learning: Minutes of Full Commission Meeting (5th, Washington, District of Columbia, April 7, 1992)***

YEAR: 1992

DEVELOPER: National Commission on Work-Based Learning (DOL), Washington, DC

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: This document contains the minutes of the fifth meeting of the National Advisory Commission on Work-Based Learning. The meeting's stated objective was to produce a set of specific action steps for the U.S. Department of Labor to promote work-based learning. A summary of introductory remarks (Jack MacAllister) is followed by a description of the presentation of the "Framework for Action" (Pete Carlson) that was drafted to serve as a conceptual framework for the commission's work. Remarks by Delbert Spurlock pertain to the current and future directions of the commission. Summaries are then provided of reports from the six commission subgroups on Skills Standards and Certification, Integration of Human Resources and Technology, Human Resource Accounting, Human Resource Awards, Labor-Management Cooperation, and Managing Diversity. A summary of a status report (Robert Jones) on Labor Department activities that would affect the commission and its work appears next. Plans for moving forward are reviewed by Jack MacAllister. Attachments to the 13 pages of minutes are reports from the following: Working Group on Skills Standards and Certification; Subgroup on the Integration of Technology Diffusion and Human Resource Development; Diversity Subgroup; Subgroup on Labor-Management Cooperation; and Human Resource Accounting Subgroup. These reports discuss the mission, activities, strategies, proposed action, and recommendations. A draft of the "Framework for Action" is also appended. (YLB)

FORMAT: Conference Proceedings, 100 pp., $15.40 (order no. ED344997)

TITLE: ***Not Just a Number: Experiences of Workplace Learning by Workers in the North of England***

YEAR: 1992

AUTHOR: Frank, Fiona, ed.

DEVELOPER: Center for the Study of Education and Training, Lancaster University

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: In April 1992, 16 individuals who were all employed in manual or nonsupervisory jobs and who had all participated in employer-funded adult education courses offered partly or entirely during work hours attended a weekend retreat in the north of England. They spent the weekend talking and writing about their experiences with work-based learning, its effect on their lives, and the broader benefits of work-based education programs. This book presents the collected writings of the weekend program's participants. The writings are in various formats including reports, essays, and poems. In the introductory section, two participants describe their involvement in workplace learning and its significance in their lives. The writings in chapters 1 and 2 describe typical workdays in the lives of service occupation and factory workers, and the poems and essays in chapter 3 focus on the participants' reasons for taking work-based adult education courses and the personal and career benefits of the courses. The works presented in chapter 4 offer reasons why giving employees access to education during work time benefits employers and include points for employers to consider when developing work-based learning programs. In chapter 5, participants offer their views of the weekend retreat. (MN)

FORMAT: Collection, 54 pp. $11.55 (order no. ED367847)

TITLE: ***Opening Career Paths for Youth: What Can Be Done? Who Can Do It?***

YEAR: 1994

AUTHOR: Hamilton, Stephen F.; Hamilton, Mary Agnes

DEVELOPER: Cornell Youth and Work Program, Cornell University; American Youth Policy Forum; Jobs for the Future

AVAILABILITY: American Youth Policy Forum, 1001 Connecticut Avenue, NW, Suite 719, Washington, DC 20036-5541, (202) 775-9731

ABSTRACT: Youth jobs can serve as an introduction to employment, but few jobs for young adults in their 20s make use of their skills. Young people will be motivated to succeed in school only when they can find employment in jobs that pay well above minimum wage and provide benefits, security, and opportunities for advancement. In order to improve the prospects of youth, a career opportunity system is needed. Work-based learning is at the core of an effective career opportunity system, and youth apprenticeship is the most highly developed form of work-based learning. Tech Prep is another means of relating school to employment, and cooperative education is a related approach. The challenge is for all educators and employers to bring existing components together as a coherent whole that serves the needs of all young people. The components of a career opportunity system should include the following: career information and advising, high academic standards for all, career majors and career academies, and work-based learning. Partnerships must be formed among schools, employers, government, the community, students, and parents, with defined responsibilities for each partner. An organizing mechanism is needed to provide overall support and coordination for the system. The School-to-Work Opportunities Act provides a basis but not a blueprint for starting a career opportunity system for noncollege-bound youths. (Contains 30 references.) (KC)

FORMAT: Position Paper, 17 pp., $1

TITLE: **"Partners in Transition"**

YEAR: 1994

JOURNAL: *Training and Development* Vol. 48, No. 11 (November), pp. 32-37

AUTHOR: Gittleman, Mark

AVAILABILITY: UMI Article Clearinghouse, 300 N Zeeb Road, Ann Arbor, MI 48106, (800) 521-0600

ABSTRACT: The School-to-Work Opportunities Act is a comprehensive approach to work-based learning through integrating academic and vocational education, integrating school- and work-based learning, and linking secondary and postsecondary education. The most critical challenge is finding enough employers to provide workplace experiences for students. (SK)

TITLE: ***Planning and Implementing Youth Apprenticeship and Work-Based Learning***

YEAR: 1995

AVAILABILITY: Center on Education and Work, 964 Educational Sciences Building, 1025 W Johnson, Dept. L, Madison, WI 53706, (800) 446-0399

ABSTRACT: Through a comparison of youth apprenticeship and other forms of work-based learning, this guide identifies characteristics of effective programs; outlines the roles of key players including teachers, administrators, instructors, employers, business and industry, parents, and students; and describes common pitfalls.

FORMAT: Guide, 120 pp., $18.50

TITLE: ***The Potential Implementation of Youth Apprenticeship Programs in Florida***

YEAR: 1994

DEVELOPER: Florida State Council on Vocational Education, Tallahassee

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: A study examined employers' views regarding factors facilitating and obstructing the success of School-to-Work (STW) transition programs and ways of facilitating public- and private-sector participation in STW programs for Florida's noncollege-bound youth. A literature review and multiple case studies of established youth apprenticeship (YA) programs in Jacksonville and Alabama were conducted. The case studies included reviews of numerous written documents and reports and personal interviews of 10 participating employers, 8 former participating employers, and 9 program administrators currently or previously involved in the YA programs. Of the 18 employers interviewed, 16 considered participation in YA programs a cost-effective method of training employees. Employers also perceived YA programs as a source of good employees and a way of promoting a positive image. Perceived barriers to participation included student workers' immaturity or poor attitudes, lack of retention guarantees after training resources have been expended, time required for paperwork and program development/implementation, and limits of insurance coverage for underage workers. The following actions were recommended as ways of facilitating transition: implement public relations and marketing activities, address immaturity and attitude problems among youth, provide scheduling alternatives, improve student placements, implement employer incentive programs, reform administrative procedures, and reorganize governance. (Contains 56 references.) (MN)

FORMAT: Research Report, 45 pp., $7.70 (order no. ED373181)

TITLE: ***A Primer on Improving the Quality of Academic Enrichment in Summer Youth Employment Programs***
YEAR: 1993
JOURNAL: *Youth Programs*
Special Edition (Fall)
DEVELOPER: Center for Human Resources, Brandeis University
AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400
ABSTRACT: This primer is intended as a guide for the development and improvement of summer youth programs. The primer focuses on three common forms of summer academic enrichment strategies that combine work and learning: work-based learning, classroom-based enrichment, and summer jobs. It includes information on the following: the key principles involved; the roles of the public schools, the community-based organizations, and employers; the key principles guiding partnership development; and other standard components of summer academic enrichment. The guide also includes a short overview of 13 demonstration summer program sites called Summer Beginnings. (KC)
FORMAT: Journal, 49 pp., $7.70 (order no. ED363691)

TITLE: **"Prospects for an American-Style Youth Apprenticeship System"**
YEAR: 1993
JOURNAL: *Educational Researcher*
Vol. 22, No. 3, pp. 11-16
AUTHOR: Hamilton, Stephen F.
AVAILABILITY: UMI Article Clearinghouse, 300 N Zeeb Road, Ann Arbor, MI 48106, (800) 521-0600
ABSTRACT: Challenges identified by T. Bailey (1993) as obstacles to youth apprenticeship programs are accurate but do not justify the turn to alternative approaches he recommends. U.S. style programs can be built to overcome these difficulties if employer-worker collaboration can be fostered and institutional bases can be constructed.

TITLE: ***Quality of Students' Work Experience and Orientation Toward Work***
SERIES: **Reprint Series**
YEAR: 1990
AUTHOR: Stern, David; Hopkins, Charles; Stone, James, III; McMillion, Martin
AVAILABILITY: NCRVE Materials Distribution Service, Horrabin Hall 46, Western Illinois University, Macomb, IL 61455, (800) 637-7652
ABSTRACT: The article discusses the concern over high school and college students that hold paid jobs and the possible negative effects for the student-employees. The major issues addressed in the article include (1) longitudinal data from several studies showing that students who spend more time working while in high school, on average, earn more money in the first few years after leaving high school than others who do not attend college; (2) evidence that students who spend more time working do less well in high school and obtain less additional schooling after high school; (3) other evidence that shows no negative effects on school performance, except for students working more than 20 hours per week; and (4) an analysis that shows working is correlated with—and may cause a range of—dysfunctional, unethical or self-destructive behavior among high school students.
FORMAT: Article, 20 pp., $2.25

TITLE: ***Quality of Work Experience as Perceived by Two-Year College Students in Co-op and Non-Co-op Jobs***
YEAR: 1992
AUTHOR: Stern, David; Stone, James R., III; Hopkins, Charles; McMillion, Martin; Cagampang, Helen
AVAILABILITY: NCRVE Materials Distribution Service, Horrabin Hall 46, Western Illinois University, Macomb, IL 61455, (800) 637-7652
ABSTRACT: The negative effects of student employment may be mitigated by connecting students' jobs with their academic work so that, rather than competing, the two activities enhance each other. This report discusses the findings from a survey of workings students in two-year colleges, some of whom are enrolled in cooperative education. The study investigated whether co-op and nonco-op students have different perceptions of their jobs and how those jobs relate to their studies. The data reported within this material is from the first series of a longitudinal study.
FORMAT: Report, 47 pp., $2.50

TITLE: ***School to Apprenticeship Handbook: A Guide for Starting a Youth Apprenticeship System in Michigan***
YEAR: 1992
DEVELOPER: Educational Data Systems, Inc.
AVAILABILITY: Michigan Center for Career and Technical Education, 230 Erickson Hall, Michigan State University, East Lansing, MI 48824, (800) 292-1606

ABSTRACT: This handbook was designed to help local communities create new career paths for high school learners. The handbook provides steps and details for the communities to organize youth apprenticeship systems. The first three sections, Planning, Getting Started, and Operations and Administration, provide steps for the development of an action plan to implement a School-to-Work Transition System. The other sections provide support for implementing the action plan.

FORMAT: Guide, 172 pp., $20

TITLE: ***School-to-Work Transition***

YEAR: 1994

JOURNAL: *Vocational Education Journal: Special Reprint* (March)

AVAILABILITY: AVA Reprints, 1410 King Street, Alexandria, VA 22314, (800) 826-9972

ABSTRACT: This is a reprint of selected articles from the March 1994 edition. It contains the following: "Reinventing Education: Why We Need the School-to-Work Initiative" by Robert I. Lerman; "School to Work Opportunities: How Vocational-Technical Educators Can Tap the New Federal Legislation" by Dale Hudelson; "Linking Apprenticeship with Tech Prep: Students Come Out on Top When Work, Instruction Mesh" by Lynne M. Gilli and Angelo C. Gilli, Sr.; "Rallying 'Round Apprenticeship: Working Models Show How This Reform Movement Could Have Staying Power"; "No Four Walls Could Hold This School: Why Is Everbody Talking about Lycoming County's Youth Apprenticeship Program?" by Ann Dykman; and "Time-honored or Timeworn? Cooperative Education in the 1990s" by Solomon Hoberman.

FORMAT: Journal, 20 pp., $50 per set of 20 copies

TITLE: ***The School-to-Work Transition and Youth Apprenticeship: Lessons from the U.S. Experience***

YEAR: 1993

AUTHOR: Bailey, Thomas; Merritt, Donna

AVAILABILITY: Manpower Demonstration Research Corporation, Three Park Avenue, New York, NY 10016, (212) 532-3200

ABSTRACT: Of high importance on the present domestic policy agenda is preparing our youth for productive, high-wage employment in the extremely competitive U.S. and world economies. The School-to-Work policy challenge cuts across the fields of secondary and higher education, training, and economic policy. This report provides a study and in-depth examination of innovative programs around the country and the roles that state and employers play in these initiatives. The specific question focused on is What can we learn from existing U.S. programs that combine schooling with work in their effort to prepare students for high-wage employment? Youth apprenticeship and School-to-Work Transition programs are elaborated upon as possible solutions to preparing students for a successful career in the workforce.

FORMAT: Report, 74 pp., $12

TITLE: ***School-to-Work Transition: Resources for Counseling***

YEAR: 1995

AUTHOR: Chew, Catherine

AVAILABILITY: Center on Education and Work, 964 Educational Sciences Building, 1025 West Johnson Street, Dept. T, Madison, WI 53706, (608) 263-3696

ABSTRACT: This guide provides a basic understanding of the School-to-Work Opportunities Act, Tech Prep, and Youth Apprenticeship. It is filled with sample resources on career portfolio, career maps, and articulation agreements that can be used in local districts by counselors or Tech Prep project directors. It identifies the role of the counselor in each component of the Act: work-based learning, school-based learning, and connecting activities.

FORMAT: Guide, 218 pp., $19.50

TITLE: ***Student Assessment and Youth Apprenticeship***

YEAR: 1994

AUTHOR: Ananda, Srijati M.; Rabinowitz, Stanley N.

AVAILABILITY: Council of Chief State School Officers, One Massachusetts Avenue, NW, Suite 700, Washington, DC 20001, (202) 408-5505

ABSTRACT: The focus of this material is to summarize the lessons learned and the works in progress for assessing students' progress in a School-to-Work transition system. The specific focus is on youth apprenticeship, which should be apart of any program-rich, School-to-Work transition system. The youth apprenticeship programs are a strategy for preparing students for the world of work and a means for ensuring that entry-level workers possess the training and skills required on the job. It is the purpose of this report to describe a comprehensive strategy for the assessment of student achievement and mastery in "youth apprenticeship" programs.

FORMAT: Report, 13 pp., free

TITLE: ***Union Perspectives on New Work-Based Youth Apprenticeship Initiatives***

YEAR: 1992

AUTHOR: Shenon, Carol

AVAILABILITY: Jobs for the Future, One Bowdoin Square, Boston, MA 02114, (617) 742-5995

ABSTRACT: Jobs for the Future commissioned the Human Resources Development Institute (HRDI) of the AFL-CIO to explore and report on the views of a range of union officials on the subject of youth apprenticeship strategies for the U.S. HRDI, already involved in defining issues of School-to-Work transition for young people, agreed to conduct a series of interviews and to prepare a report. This document is a summary of those interviews. More importantly, it serves as an important first step in clarifying the key concerns of organized labor's training experts about the youth apprenticeship model and approach. The report makes it obvious that labor has some serious substantive concerns. In addition, the report reveals deep sympathy and support among labor leaders for programs designed to provide the "Forgotten Half" with opportunities to develop skills that will enable them to pursue satisfying, well-paying careers.

FORMAT: Report, 52 pp., $10

TITLE: ***Upgrading America's Workforce through Participation and Structured Work-Based Learning: UCLP Research Report***

YEAR: 1990

AUTHOR: Marschall, Daniel

DEVELOPER: American Federation of Labor and Congress of Industrial Organizations; Human Resources Development Institute

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: This document describes the AFL-CIO's Upgrading and Career Ladder Program (UCLP), which creates a system of structured, work-based learning that integrates on-the-job training with related theoretical instruction. The UCLP has the following objectives: to meet workers' skill upgrading and occupational mobility needs; to encourage unions and employers to sustain learning programs through collective bargaining provisions; to operate workplace demonstration programs; and to facilitate union/worker participation. The first two sections of this document present an overview of the apprenticeship system and recount the Apprenticeship 2000 initiative history, including labor organizations' comments. Because ongoing training systems upgrade workers' basic skills, section III provides a perspective on the debate over workplace literacy. A review of labor market information is included in section IV. The narrative part of the report concludes with a section on upgrading experience in government programs, the relationship of upgrading to career development, and the importance of union and worker participation in workplace learning systems. The extensive selected bibliography provides 235 references on the following subjects: apprentice system; Apprentice 2000 initiative; learning basic skills—a perspective; labor market information; and union and worker participation—the key to career development. (NLA)

FORMAT: Report, 47 pp., $7.70 (order no. ED349435)

TITLE: ***Using Youth Apprenticeship to Improve the Transition to Work: An Evaluation of System Development in Eight States***

YEAR: 1994

AUTHOR: Reisner, Elizabeth R.; and Others

AVAILABILITY: Council of Chief State School Officers Publications Office, One Massachusetts Avenue, NW, Suite 700, Washington, DC 20001-1431, (202) 408-5505

ABSTRACT: In 1992, the U.S. Department of Labor and Council of Chief State School Officers awarded grants for the development of statewide systems to enhance School-to-Work transition (STW) through youth apprenticeship in eight states: California, Iowa, Maine, Michigan, Oregon, Pennsylvania, West Virginia, and Wisconsin. In June 1993, the programs were evaluated in five areas: program elements contributing to state-based STW systems; state-level governance mechanisms facilitating working relationships among secondary and postsecondary education agencies, state labor and employment agencies, registered apprenticeship, employers, and labor organizations; state actions promoting systemic change in local schools and school districts; state actions facilitating employer involvement in system development and provision of work-based learning opportunities; and contribution of national demonstration grants to development of state systems. Site visits, interviews, and reviews of state plans and reports established that all eight states saw development of STW systems as responding to the same broad educational and economic goals; however, the states varied in the emphasis placed on each goal. Problems in developing states' capacity for systemic reform and lessons for current programming were identified. (Appended are state data summaries. Contains 17 references and 14 tables.) (MN)

FORMAT: Report, 129 pp., free

TITLE: **"The Validity and Reliability of Assessments and Self-Assessments of Work-Based Learning"**

YEAR: 1993

JOURNAL: *Assessment and Evaluation in Higher Education*
Vol. 18, No. 2, pp. 83–94
AUTHOR: Benett, Yves
AVAILABILITY: UMI Article Clearinghouse, 300 N Zeeb Road, Ann Arbor, MI 48106, (800) 521-0600
ABSTRACT: In light of the growing need for individuals to be assessed or to assess themselves on workplace learning, the different notions of reliability and validity in classical test theory are examined as they might apply to work-based learning. It is concluded that, under certain stated conditions, test reliability, validity, and comparability can be determined. (MSE)

TITLE: ***What Employers Want: Employer Perspectives on Youth, the Youth Labor Market, and Prospects for a National System of Youth Apprenticeship***
YEAR: 1994
AUTHOR: Zemsky, Robert
AVAILABILITY: National Center on the Educational Quality of the Workforce, University of Pennsylvania, 4200 Pine Street, 5-A, Philadelphia, PA 19104-4090, (800) 437-9799
ABSTRACT: Employer attitudes toward youth, the youth labor market, and prospects for a national system of youth apprenticeships were studied through a survey of firms that had participated in local youth apprenticeship or cooperative education programs in seven U.S. cities and in focus group discussions with small and large employers in eight U.S. communities. The studies established that the period between completing school and obtaining a good job is getting longer, the link between formal schooling and work is becoming more tenuous, and employers (especially small firms) are generally wary of any policy initiative designed to encourage the hiring and training of new workers. Employers were reluctant to initiate youth apprenticeship programs given the present labor surplus/job shortage. They generally felt that youths lack discipline, good work attitudes, and communication skills and that schools do not prepare students for employment. Screening was the employers' dominant concern regarding participation in a youth appren-ticeship program. Focusing national attention on the absence of good jobs for young people and emphasizing flexibility in any policies developed were concluded to be the keys to improving the School-to-Work transition.
FORMAT: Report, 18 pp., free

TITLE: ***Work Based Learning and Higher Education in the USA***
YEAR: 1993
AUTHOR: Portwood, Derek; Naish, Jenny
DEVELOPER: Middlesex University, London (England)
AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400
ABSTRACT: This paper describes and analyzes general issues and examples of good practice in work-based learning relative to higher education in the United States and applies them to comparable situations in the United Kingdom. Higher education has re-evaluated work-based learning to respond to changing socioeconomic conditions, such as the needs to increase the workforce by educating disadvantaged groups and to upgrade skills of the existing workforce. The role of the U.S. federal government and several U.S. organizations in shaping work-based learning is examined. The customized nature of work-based learning to meet the needs of both the company and the company's individual employees is noted, as well as the complexity of the many different types of work-based learning providers. Components of good practice in work-based learning are specified, followed by discussions of barriers to good practice, employers' concerns about global competitiveness, and funding concerns. Developments in the United Kingdom are outlined, followed by a list of areas where international exchange of information and ideas is needed. Appendices provide a matrix of work-based learning providers and a list of six organizations. (Contains 34 references and footnotes.) (JDD)
FORMAT: Project Description, 44 pp., $7.70 (order no. ED369316)

TITLE: ***Work-Based Learning in Two-Year Colleges in the United States***
YEAR: 1995
AUTHOR: Bragg, D. D.; Hamm, R. E.; Trinkle, K. A.
AVAILABILITY: NCRVE Materials Distribution Service, Horrabin Hall 46, Western Illinois University, Macomb, IL 61455, (800) 637-7652
ABSTRACT: This report documents the first of two studies on the status of work-based learning in America's community, junior, and technical colleges. The study was to determine the aggregate depth, scope, and quality of work-based learning in the nation's two-year colleges. Because this research was done just prior to passage of the federal School-to-Work Opportunities (STWO) legislation, it provides a baseline from which progress on the implementation of new work-based learning programs in

two-year postsecondary education can be assessed. The overarching goal of the research is to learn if America has, or may soon have in place, the structures to meet new federal STWO directives.

FORMAT: Report, 83 pp., $6 (order no. MDS-721)

TITLE: ***Work-Based Learning Opportunities for High School Students***

YEAR: n.d.

AVAILABILITY: Kentucky Department of Education, Division of Secondary Vocational Education, 21st Floor, Capital Plaza Tower, 500 Metro Street, Frankfort, KY 40601, (502) 564-3775

ABSTRACT: This material provides a guide for individuals to explore the possibilities that exist within communities for work-based learning experiences. Interest in real-life learning experiences are increasing, and programs such as School-to-Work allow for students to participate in both school- and work-based learning. Also included in the guide are types of businesses that would meet the qualifications for a school- and work-based learning program.

FORMAT: Guide, 11 pp., free

TITLE: **"Work-Based Learning: Professional Training for Teaching in Vocational Education"**

YEAR: 1993

JOURNAL: *International Journal of Vocational Education and Training*
Vol. 1, No. 2 (Fall), pp. 5–19

AUTHOR: Niven, Stuart M.

AVAILABILITY: Powell International, 670C Enterprise Dr., Westerville, OH 43081, (614) 847-9550

ABSTRACT: This article outlines the efforts of the Scottish School of Further Education to use distance teaching methods to provide work-based learning for vocational education teachers through three programs: education studies, theories of instruction process, and educational methods and curriculum development. (SK)

FORMAT: Article, $5; whole issue, $25

TITLE: **"Work-Based Learning: Tech Prep Educators and Employers Ease the Move from School to Work"**

YEAR: 1991

JOURNAL: *Vocational Education Journal*
Vol. 66, No. 3 (March), pp. 22–23, 43

AUTHOR: Hull, Dan; Marsalis, Carroll

AVAILABILITY: UMI Article Clearinghouse, 300 N Zeeb Road, Ann Arbor, MI 48106, (800) 521-0600

ABSTRACT: The workplace demands both theoretical knowledge and practical experience. Employer-educator partnerships should focus on workplace skill requirements, give real-work experience reinforced through classwork, and provide realistic career awareness activities that eliminate preconceptions and misconceptions about jobs. (SK)

TITLE: ***Work-Based Learning: Training America's Workers***

YEAR: 1989

AVAILABILITY: U.S. Department of Labor Employment and Training Administration, 200 Constitution Avenue, Rm. North 4700, Washington, DC 20210, (202) 219-6871

ABSTRACT: Increasing concerns about the skill level of U.S. workers are driven by demographics, technological change, and international competition. Greater percentages of the labor force will be from those groups that have traditionally faced the greatest barriers to full participation in the labor force. Rapid technological change is increasing the complexity of the workplace. The United States is part of an increasingly global marketplace. The U.S. Department of Labor launched the Apprenticeship 2000 initiative in December 1987 to determine what role the apprenticeship concept might play in raising the skill levels of workers. The initiative included public dialogue, a research program, and an analysis of relevant studies. Key findings included the following: (1) work-based learning is the most effective method of skill acquisition; (2) the current apprenticeship program can be strengthened and improved, but the system should be preserved; and (3) new training program models should be developed. Recommendations included the following: credentialing structured work-based training programs; strengthening the basic apprenticeship model; and supporting and expanding structured work-based training programs including apprenticeship. (29-item bibliography) (CML)

FORMAT: Report, 63 pp., free

TITLE: ***Workplace Education Design Checklist: A Tool for Program Planning***

YEAR: 1994

AUTHOR: Manly, Donna

AVAILABILITY: Center on Education and Work, 964 Educational Sciences Building, 1025 West Johnson Street, Dept. T, Madison, WI 53706-1796, (800) 446-0399

ABSTRACT: This guide is an aid for developing new and enhancing established workplace education programs. With minor modifications, this document may be useful to other types of training and education endeavors. A checklist is provided to assist those

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planning to implement a workplace education program. The checklist includes (1) Workplace Education Program Design and Planning Tool; (2) Evaluation Design and Planning Instrument; (3) Management-Labor-Education Partnership Decision-Making Tool; and (4) Action Plan for Future Program or Evaluation Enhancements. After using this checklist to design or enhance workplace education programs, it is recommended that within six months to one year programs are examined relative to the items selected for action on this checklist.

FORMAT: Guide, 18 pp., $8

TITLE: ***Workplace Education Evaluation Checklist: A Tool for Assessing and Improving Performance***

YEAR: 1994

AUTHOR: Manly, Donna

AVAILABILITY: Center on Education and Work, University of Wisconsin–Madison, 964 Educational Sciences Building, 1025 West Johnson Street, Dept. T, Madison, WI 53706-1796, (800) 446-0399

ABSTRACT: This guide is an aid in evaluating and enhancing the performance of established workplace education programs. A checklist is provided to be used as an evaluation instrument or as a progress check on items identified by the management, labor, and education partners during prior program design meetings. The checklist includes (1) Evaluation Tool to Assess Program Performance, (2) Semi-Annual or Annual Progress Check on Items Identified on the Workplace Education Design Checklist, and (3) Action Plan for Future Program or Evaluation Enhancements.

FORMAT: Guide, 28 pp., $8.60

TITLE: **"Youth Apprenticeship 'American Style' and Career Development"**

YEAR: 1994

JOURNAL: *Career Development Quarterly* Vol. 42, No. 3 (March), pp. 216–23

AUTHOR: Hoyt, Kenneth B.

AVAILABILITY: UMI Article Clearinghouse, 300 N Zeeb Road, Ann Arbor, MI 48106, (800) 521-0600

ABSTRACT: This article notes the increase in popularity of work-based learning and youth apprenticeship. Hoyt contends that counselors in educational settings are being downplayed and job mentors are being played up by leaders in the youth apprenticeship movement. He encourages counselors to become actively involved in counseling persons regarding a variety of forms of postsecondary education with respect to all forms of work-based learning. (Author/NB)

TITLE: ***Youth Apprenticeship, American Style: A Strategy for Expanding School and Career Opportunities: Report of a Conference (Washington, DC, December 7, 1990)***

YEAR: 1990

AUTHOR: Nothdurft, William E.

PUBLISHER: Consortium on Youth Apprenticeship

AVAILABILITY: Jobs for the Future, One Bowdoin Square, Boston, MA 02114, (617) 742-5995

ABSTRACT: Proceedings of a conference that examined the merits of a youth apprenticeship approach for the United States are summarized in this report. Participants included representatives of business, labor, education, and government. The report follows the outline of the conference sessions, presenting a rationale for a new system of preparing non-college-bound youth for productive membership in the nation's economic and social life, outlining principles that should guide such a system, delineating a proposed model system, critiquing the model, and responding to the criticism from advocates of youth apprenticeship. Three appendixes contain the following: (1) a list of youth apprenticeship technical assistance resources, grouped in categories of work-based learning, school-business partnerships, vocational education, curriculum development, school restructuring, and youth employment; (2) a 129-item bibliography, grouped into the categories of education and work in a changing society, changes in workplace skills, the state of schools and the need for reform, the rationale for linking education and work, school improvement through business partnerships, vocational education and its reform, schooling and work—lessons from overseas, and work-based learning —current practice, future prospects; and (3) a list of youth apprenticeship programs. (KC)

FORMAT: Conference Proceedings, 48 pp., $10

TITLE: ***Youth Apprenticeship in America: Guidelines for Building an Effective System***

YEAR: 1992

AUTHOR: Rosenbaum, James E.; and Others

DEVELOPER: William T. Grant Foundation, Commission on Work, Family, and Citizenship

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: These seven papers offer a menu of alternative approaches to apprenticeships and suggest the advantages and disadvantages of each. "Apprenticeship Learning: Principles for Connecting Schools and Work Places" (James Rosenbaum) discusses how fundamental changes in the global economy virtually require improved education of all youth and why teachers and employers are increasingly

concerned about preparing youth for work. Some youth apprenticeship models are described and used to infer the essential principles of effective apprenticeships. "School-Based Work Experience" (David Stern) identifies a continuum of work experiences and highlights characteristics of school-based programs that build on work experience. It discusses key components of co-op programs and career academies. "Learning at Work" (Stephen and Mary Hamilton) provides a theoretical basis for learning by doing work. It identifies components that underpin work-based learning and describes practices that make classrooms and workplaces more effective learning environments. "Apprenticeship as a Paradigm for Learning" (Sue Berryman) presents a model supported by the research on experience-based education, discusses characteristics of ideal learning environments, describes traditional and cognitive apprenticeships, and discusses some implementation issues. "Guidelines for Effective School-Employer Linkages for Apprenticeship" (Rosenbaum) examines pitfalls of school-employer relationships and considers examples from Germany and Japan that could make more effective linkages between schools and businesses in the United States. "Certification of Work Competencies" (Berryman, Rosenbaum) explores credentialling systems that could pose standards for attainment, help students get recognition for their accomplishments, and connect students to high-quality entry-level occupations. "Conclusions and Implications for Policy and Practice" (Rosenbaum) offers practical approaches to implementing findings and models. A "Commentary" (Richard Kazis) and author biographies are appended. (Contains 184 references.) (YLB)

FORMAT: Collection, 82 pp., $15.40 (order no. ED355340)

TITLE: ***Youth Apprenticeships. What? Why? How?***

YEAR: 1993

DEVELOPER: North Carolina State Department of Public Instruction, Division of Vocational and Technical Education

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: This report describes youth apprenticeships, one of the types of School-to-Work transition programs in place in North Carolina. Information is provided on the following: (1) what youth apprenticeships are; (2) connection with Tech Prep associated degree programs; (3) essential elements of youth apprenticeships; (4) legislative framework for federal youth apprenticeships; (5) a strategic plan; (6) goals for 1993–96 for North Carolina; (7) objectives and strategies; (8) evaluation methods; and (9) nine steps to establish a youth apprenticeship program.

FORMAT: Report, 9 pp., $3.85

TITLE: ***YTS Core Skills and the Accreditation of Work Based Learning: Working Paper***

YEAR: 1986

AUTHOR: Mathews, David

DEVELOPER: Further Education Staff College, Blagdon (England)

AVAILABILITY: ERIC Document Reproduction Service, DynTel Corporation, 7420 Fullerton Road, Suite 110, Springfield, VA 22153-2852, (800) 443-3742 or (703) 440-1400

ABSTRACT: The Core Skills Project has developed the "core skills" instrument that can be used in the analysis of occupational competence. Any development of accreditation of work-based learning entails assessment of learning in the workplace. The success of such assessment depends on identifying the outcomes of experience in terms of competence and the work role of the learner. A link needs to be found between the raw observation or measurement of the individual events of a learner's program and the eventual interpretation of a certificate plus supporting evidence. The means chosen by the Core Skills Project has been to describe skills used in any situation in a way that could be related to any other. These skills have been defined as being common to a wide variety of tasks and essential to carrying out those tasks. They are particularly important in helping to deal with two of the problems involved in using the workplace as a source of assessment information—difficulty of generalization and inequality of opportunity. The analytical and descriptive capacity of the core skills enables the significant workplace element within the Youth Training Scheme to be part of a coherent accreditation system. (YLB)

FORMAT: Position Paper, 16 pp., $3.85 (order no. ED278810)

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NATIONAL ORGANIZATIONS

Adult, Career, and Vocational Education
ERIC Clearinghouse
Ohio State University
1900 Kenny Road
Columbus, OH 43210-1090
(800) 848-4815

American Vocational Association
1410 King Street
Alexandria, VA 22314
(703) 683-3111

American Youth Policy Forum
1001 Connecticut Avenue, NW
Suite 719
Washington, DC 20036-5541
(202) 775-9731

Bureau of Apprenticeship and Training
Employment and Training Administration
U.S. Department of Labor
200 Constitution Avenue, NW
Washington, DC 20210
(202) 219-5921

Center on Education and Work
School of Education
University of Wisconsin-Madison
964 Educational Sciences Building
1025 West Johnson Street
Madison, WI 53706-1796
(608) 263-3696

Cornell Youth and Work Program
College of Human Ecology
Cornell University
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Council of Chief State School Officers
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Boston, MA 02114
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National Center for Research in Vocational Education
University of California at Berkeley
2150 Shattuck Avenue, Suite 1250
Berkeley, CA 94720-1674
(800) 762-4093

National Governor's Association
444 North Capital Street
Washington, DC 20001-1572
(202) 624-5300

National Institute for Work and Learning
1875 Connecticut Avenue NW, 9th Floor
Washington, DC 20009
(202) 884-8186

Office of Work-Based Learning
Employment and Training Administration
U.S. Department of Labor
200 Constitution Avenue, NW
Washington, DC 20210
(202) 219-6540

School-to-Work Opportunities Information Center
Room 4080, Switzer Building
330 C Street, SW
Washington, DC 20202-7100
(202) 260-7278

Southeast Curriculum Coordination Center
Mississippi State University
P.O. Drawer DX
Mississippi State, MS 39762
(601) 325-2510

Youth Policy Institute
1221 Massachusetts Avenue, NW
Suite B
Washington, DC 20005-5333
(202) 638-2144

FLORIDA ORGANIZATIONS

FETPIP (Florida Education and Training Placement Information Program)
Florida Department of Education
119 Collins Building
107 West Gaines Street
Tallahassee, FL 32399
(904) 487-0900

Florida School-to-Work Clearinghouse
Educational Services Program
Florida State University
251 Sliger Building
2035 East Dirac Drive @ Innovation Park
Tallahassee, FL 32310
(800) 428-1194 (FL only)
(904) 644-0830

FLOIS (Florida Labor and Occupational Information Service)
Florida Department of Labor and Employment Security
200 Hartman Building
2012 Capital Circle, SE
Tallahassee, FL 32399-2151
(904) 488-1048

School-to-Work Coordinator
Florida Department of Labor
Atkins Building, Room 313
1320 Executive Center Drive
Tallahassee, FL 32399-0667
(904) 488-7228

School-to-Work/Tech Prep Unit
Division of Applied Technology and Adult Education
Florida Department of Education
Florida Education Center, Room 1232
Tallahassee, FL 32399-0400
(904) 488-7394

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